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NARAYAN CHANGDER



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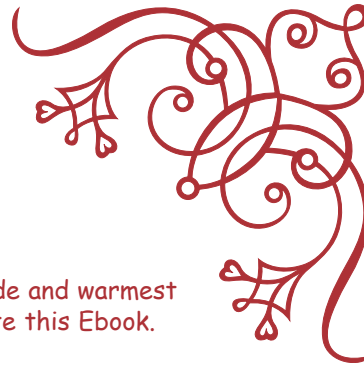
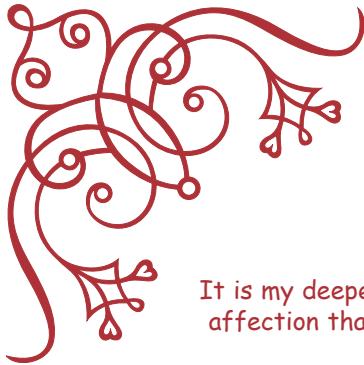


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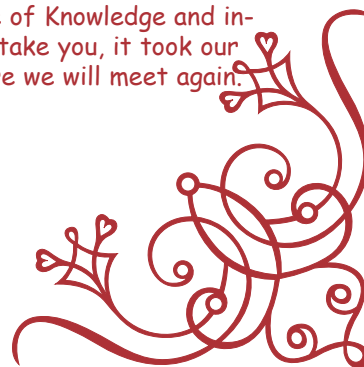
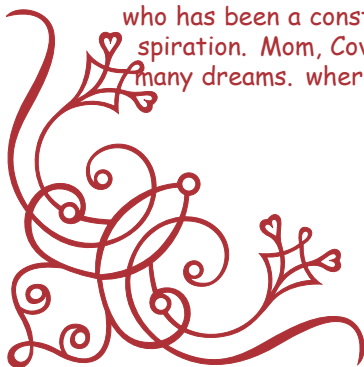


This E-book is dedicated to the loving memory of my mother:
my guiding light, my shining star,
forever



It is my deepest gratitude and warmest
affection that I dedicate this Ebook.

To my mother JOYTSNA CHANGDER
who could not see this Ebook.



who has been a constant source of Knowledge and in-
spiration. Mom, Covid did not take you, it took our
many dreams. wherever you are we will meet again.

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1. Agriculture

1.1 The History of Agriculture

1. **laborers who make a certain craft**
 - A. priests
 - B. skilled workers
 - C. artisans
 - D. entrepreneur
2. **The most likely reason tools and supplies were shipped from the North to the South on the railroads was**
 - A. the tools produced in the South were not of good quality
 - B. The North had many factories which produced the tools, while the South did not have such factories
 - C. The Northern Railroads needed materials and supplies to ship so they could stay in business
 - D. The Southern plantation owners wanted to support the Northern businesses
3. **Physiological density is defined as**
 - A. the average farm production compared to arable land.
 - B. the number of farmers as compared to the total population.
 - C. the number of people compared to arable land.
 - D. the number of farms compared to the total land area.
4. **Is the raising of crops and animals for human use.**
 - A. Agriculture
 - B. Domesticate
 - C. Irrigation
 - D. Surplus
5. **When people move from one place to another to live.**
 - A. Irrigation
 - B. Domesticate
 - C. Agriculture
 - D. Migration
6. **According to the von Thunen model, what type of agricultural practice would locate in the outer most concentric ring?**
 - A. dairy
 - B. grazing
 - C. forestry
 - D. horticulture

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7. **Which one of the following is a coarse grain?**
- A. Wheat
 - B. Rice
 - C. Pulses
 - D. Millets
8. **In which type of the soil does maize grow well?**
- A. Black
 - B. Light domat
 - C. Old Alluvial
 - D. None of those
9. **Groups of people who move from place to place in search of food and water**
- A. River Valley
 - B. Civilization
 - C. Nomads
 - D. Social Classes
10. **Which factor was most important for the survival of early humans?**
- A. little or no change in temperature
 - B. reliable supplies of food and water
 - C. access to materials for making tools
 - D. none of above
11. **Goods and services are produced in better quantity and speed when people focus on producing a few things instead of making everything they want by themselves.**
- A. Specialization
 - B. Surplus
 - C. Technology
 - D. Domesticate
12. **By 7, 000 years ago there was an abundance of people. As a result of this, people began to focus on becoming skilled laborers. What was the type of skilled laborers we discussed in this unit?**
- A. Artisans
 - B. Blacksmith
 - C. Construction Workers
 - D. none of above
13. **What is the effect of the Northerners enjoyed an economy based on manufacturing, transportation and the exportation and sale of goods**
- A. Northerners supported high import tariffs
 - B. Northerners supported low import tariffs
 - C. Northerners supported high export tariffs
 - D. Northerners did not support tariffs
14. **To train plants or animals to be useful by people.**
- A. Domesticate
 - B. Irrigation
 - C. Agriculture
 - D. Surplus
15. **What state showed up the most within the top 5 for a species?**
- A. Nebraska
 - B. Kansas
 - C. Texas
 - D. California
16. **According to von Thunen's Model, which agricultural zone is closest to the market?**
- A. Livestock
 - B. Commercial Grain
 - C. Dairy Farming
 - D. Forestry

17. **How was new technology and knowledge gained before the 1800's?**
- A. cattle drives
 - B. trial and error method
 - C. experiment stations
 - D. systematic scientific approach
18. **Most popular beef breed**
- A. Charlois
 - B. Hereford
 - C. Angus
 - D. Hampshire
19. **In which of the following crop production India rank first in the world?**
- A. Oil Seeds
 - B. Wheat
 - C. Rice
 - D. All of these
20. **Why is agriculture a more efficient way to get more food for less work**
- A. Crops cannot be stored
 - B. it takes more time to pick food from a garden than to find it in the wild
 - C. Everyone has to take part in farming
 - D. Planted
21. **Some skills of Hunter-Gatherers are ____**
- A. picking up whatever food and other resources they happen across
 - B. Poor knowledge of the plants and animals found in their territory
 - C. astute observers of weather and the seasonal migration patterns of animals and growth patterns of plants
 - D. cultivation of crops and efforts to breed better animals
22. **Which of these examples describes a barter economy?**
- A. A weaver grows enough food to feed her family.
 - B. A weaver and farmer trade cloth for food.
 - C. A weaver buys food from a farmer.
 - D. A weaver asks a farmer to share the food he grew.
23. **Farmers that produce food that they need to survive on a daily basis are called**
- A. Commercial agriculture
 - B. Industrial agriculture
 - C. Slash-and-burn agriculture
 - D. subsistence agriculture
24. **Shifting cultivation is most commonly found in which climate region?**
- A. Humid Continental
 - B. Tropical
 - C. Polar
 - D. Warm temperate
25. **Why did early nomads begin to settle in the Fertile Crescent?**
- A. They were tired and couldn't continue their journey
 - B. The region had lush vegetation and abundant animal life
 - C. Other areas were overcrowded
 - D. They felt protected by the region's strong military presence
26. **Which factor contributed most to the end of the Neolithic Era?**
- A. the development of methods to store food
 - B. human's ability to use fire to make metal tools
 - C. the domestication of animals to use as beasts of burden

- D. none of above
27. **The result of overgrazing in semi-arid climates is**
- A. environmental modification
 - B. desertification
 - C. aquaculture
 - D. desalination
28. **Farmers in more developed and less developed countries share which of the following problems?**
- A. surplus production.
 - B. access to fertilizers.
 - C. lack of equipment.
 - D. inadequate income.
29. **A machine for reaping wheat was developed by**
- A. Cyrus McCormick
 - B. Eli Whitney
 - C. John Deere
 - D. none of above
30. **A stable food supply means a Civilization has:**
- A. Wheels
 - B. McDonald's
 - C. Enough food for its people
 - D. Restaurants
31. **Why did early humans domesticate dogs?**
- A. to help with hunting
 - B. to use for farm labor
 - C. to provide a steady food source
 - D. to make it easier to produce clothing
32. **While conducting a search for an excavation site, an archaeologist has discovered a clay pot covered with drawings. This artifact would best help archaeologists to**
- understand which aspect of an ancient society?**
- A. diet
 - B. culture
 - C. economy
 - D. none of above
33. **Which of the following crop is rich in protein?**
- A. Millets
 - B. Pulses
 - C. Jowar
 - D. Seasmum
34. **Another name for the Land Grant Act was the**
- A. Morrill Act
 - B. Hatch Act
 - C. Hughes Act
 - D. none of above
35. **What is a name for the beliefs, behaviors and knowledge of a society that is passed on from one generation to the next?**
- A. birthright
 - B. Culture
 - C. heiroglyphics
 - D. genetics
36. **What factor was most important in determining the design of building in early agricultural civilizations?**
- A. the climate and materials of the region
 - B. the wealth of the family for whom the building was constructed
 - C. the size of the labor force that would be used for the construction
 - D. none of above

37. **The most likely reason the South did not support high import tariffs was**
- A. The tariffs would tax only cotton
 - B. The tariffs would only apply to people living in the south
 - C. the tariffs would increase the cost of imported manufactured goods
 - D. the tariffs would encourage slaves to seek their freedom in the North
38. **A person who has no settled home**
- A. Civilization
 - B. Nomad
 - C. Social Class
 - D. none of above
39. **The most important aspect in the development of agriculture was**
- A. wheat reaping
 - B. scientific research
 - C. colony industrialization
 - D. none of above
40. **How many states have passed Proposition 2?**
- A. 1
 - B. 3
 - C. 6
 - D. 9
41. **Crops were sent to England and exchanged for**
- A. wheat reapers
 - B. cotton gins
 - C. manufactured goods
 - D. none of above
42. **Which event would most likely have caused early agricultural civilizations to interact with each other?**
- A. the expansion of a civilization's territory
 - B. the conquest of one people by another
 - C. the migration of one people to another location
 - D. the outbreak of disease
43. **In the beginning, this animal was mainly used for meat, milk, and labor.**
- A. Horse
 - B. Cattle
 - C. Pig
 - D. Chicken
44. **Which of these is not commercial farming?**
- A. Commercial Grain
 - B. Mixed
 - C. Organic
 - D. Plantation
45. **is a group of people having similar backgrounds, incomes, and ways of living.**
- A. Domesticate
 - B. Civilization
 - C. Social Class
 - D. Artisans
46. **Which factor contributed most to the development of the first cities?**
- A. the domestication of animals
 - B. trade between different civilizations
 - C. the creation of surplus food supplies
 - D. none of above
47. **Which Of the following are primary activities?**
- A. Agriculture
 - B. Mining
 - C. Fishing
 - D. All of these

48. **Is a society of a large number of people with a form of government and workers who specialize in various jobs.**
- A. Civilization
 - B. Surplus
 - C. Artisans
 - D. none of above
49. **What did the Mayans call the corn**
- A. Maize
 - B. Corn
 - C. Grano
 - D. Ble
50. **What was the main focus of our First Five year Plans?**
- A. Land reforms
 - B. Cooperations
 - C. Abolition of Zamindari
 - D. None of those
51. **Who was the first to develop agriculture?**
- A. cyrus mccormick
 - B. john deere
 - C. refrigerated box car
 - D. Native Americans
52. **What effect did farming have on the Stone Age?**
- A. Permanant settlements were built.
 - B. It forced man to hunt and gather.
 - C. Permanant settlements were not built.
 - D. It forced early man to make tools.
53. **What was the legislation that made colleges teach agriculture?**
- A. land grant
 - B. john deere
 - C. native americans
 - D. cyrus mccormick
54. **What was the invention that made meat available to the common man?**
- A. trail and error method
 - B. king cotton
 - C. refrigerated box car
 - D. cattle drives
55. **When did early humans start building permanent settlements?**
- A. when they started using fire
 - B. when they started using tools
 - C. when they started using basic hunting weapons
 - D. when they started farming
56. **Outsourcing**
- A. is one aspect of vertical integration.
 - B. is at the core of Fordist mass production.
 - C. leads to an increase in manufacturing jobs in less developed countries.
 - D. relies upon securing highly skilled labor.
57. **The crops grown in Europe during the Neolithic Era were the same as those grown in which other region?**
- A. China
 - B. South Africa
 - C. The Americas
 - D. The Middle East
58. **What are Factors Contributing to the Successful Cotton Plantations?**
- A. invention of the cotton gin
 - B. free slave labor
 - C. Northern manufacturers purchase cotton
 - D. all of these

59. **How did the domestication of goats and sheep affect the way the people of the Neolithic Era lived?**
- A. It increased the food supply by enabling them to plow larger fields.
 - B. It expanded trade by increasing the size of the market for grain crops.
 - C. It slowed the growth of cities by introducing new diseases into large settlements.
 - D. It improved their lifestyle by providing them with access to more natural resources.
60. **What was the most likely result of the different ways of life lived by the people in the Northern US and Southern US**
- A. people in both regions had different ideas about how the government and economies should function.
 - B. People in the different regions still made their money in the exact same ways.
 - C. People in the Southern United States were more likely to work in factories
 - D. People in the Northern United States were more likely to support low tariffs.
61. **All of the following are aspects of commercial agriculture EXCEPT**
- A. a heavy reliance on machinery
 - B. the product is consumed off the farm
 - C. there is little relationship to other businesses
 - D. a small percentage of the workforce is engaged directly in agriculture.
62. **Which factor helped start the Neolithic Revolution?**
- A. climate change
 - B. animal migration
 - C. the construction of cities
 - D. the domestication of animals
63. **More than what is needed or used; excess.**
- A. Migration
 - B. Surplus
 - C. Agriculture
 - D. Domesticate
64. **What is cultivation of grapes called'?**
- A. Sericulture
 - B. Viticulture
 - C. Floriculture
 - D. Horticulure
65. **Why did early humans begin to migrate?**
- A. Early humans migrated when there was a change in their government.
 - B. Early humans migrated when there was a pandemic.
 - C. Early humans migrated when there was a new vacation resort opening up.
 - D. Early humans migrated when there was a change in their environment.
66. **The least expensive mode of transport for shipping goods over long distances is by:**
- A. automobile
 - B. rail
 - C. ship
 - D. truck
67. **What was the greatest benefit to people when early farmers began to raise plants and animals?**
- A. Easy travel
 - B. They kept pets
 - C. Shared most work
 - D. Stable food supply
68. **Which factor is most important in uniting a large civilization?**
- A. strong military
 - B. division of labor

- C. common culture
D. system of writing
69. **What was usually defined by the job you held during early civilizations?**
A. amount of land you held
B. religious affiliation
C. social class
D. ability to vote
70. **Georgia ranks #1 in this animal production**
A. beef
B. Chickens
C. sheep
D. Turkey
71. **In today's time period, where is ancient Mesopotamia located?**
A. Iran
B. Iraq
C. Saudi Arabia
D. Turkey
72. **From which continent did early man migrate?**
A. Asia
B. North America
C. Ethiopia
D. Africa
73. **The cotton gin**
A. picked cotton
B. made cloth from cotton fibers
C. separated fibers and seed
D. none of above
74. **The basic characteristic of civilizations are: Surplus Food Supply Division of Labor and**
A. ethnic diversity
B. social hierarchy
C. advanced industry
D. polytheistic religion
75. **How did the Neolithic peoples use fire to aid their agriculture?**
A. to clear new fields
B. to turn manure into fertilizer
C. to preserve seeds for future planting
D. none of above
76. **What is the term that describes the discovery of farming?**
A. domesticated
B. paleolithic age
C. neolithic age
D. agricultural revolution
77. **The theory that farmers will adopt new and modern methods to keep up with demand caused by an increasing population was proposed by**
A. Thomas Malthus.
B. Neo-Malthusians.
C. Esther Boserup.
D. Ernest Ravenstein.
78. **The neolithic Age ended with the discovery of how to:**
A. Make linen clothes
B. Make metal tools
C. Farming
D. Play rock and roll
79. **Which country is believed to be the original home of the cotton plant?**
A. India
B. China
C. Bhutan
D. Japan

80. **This animal eventually became useful as a pack and draft animal.**
- A. Cattle
 - B. Turkey
 - C. Horse
 - D. Goat
81. **Chicken raised for meat**
- A. broilers
 - B. layers
 - C. pullets
 - D. roosters
82. **The Smith-Lever Act set up the**
- A. Cooperative Extension Service
 - B. refrigerated boxcar
 - C. Smith-Huges Act
 - D. none of above
83. **What factor has the greatest influence over people's decisions about the types of crops they raised during the Neolithic Era?**
- A. what their rulers preferred to eat
 - B. what plants were native to the region
 - C. how much they could trade with nomadic hunter-gatherers
 - D. none of above
84. **Why was the fertile Crescent the site of many early settlements?**
- A. Lots of gold
 - B. Yummy Crescent Rolls
 - C. Good soil for crops
 - D. Warm and deep caves for living
85. **The important inputs like seeds, fertilisers, machinery etc form a system called as?**
- A. Barter system
 - B. Water system
 - C. Farm system
 - D. All of these
86. **Nebraska ranks #1 in this animal production**
- A. beef
 - B. hogs
 - C. sheep
 - D. Dairy
87. **Which factor contributed most to the development of political leadership positions in early civilizations?**
- A. conflicts over land
 - B. the need to organize projects
 - C. shortages of water and food
 - D. formation of religions
88. **Mexico's maquiladora plants**
- A. must operate far from the U.S.-Mexico border.
 - B. have an advantage of proximity to Latin American markets.
 - C. have grown in number as factories have been closed in China.
 - D. have an advantage of proximity to U.S. markets.
89. **People who hunt animals and gather wild plants, seeds, fruits, and nuts to survive (they do not live permanently in one place)**
- A. Agricultural Revolution
 - B. Ice Age
 - C. Social Classes
 - D. Hunter-Gatherers
90. **What is the most likely reason enslaved people were not allowed to learn to read or write**
- A. Slaves would not enjoy the books available on the plantations
 - B. Slaves would be able to learn more about their rights in the US
 - C. Slaves might sign contracts to buy property

- D. Slaves might sign marriage license without permission
91. **Maintaining control over all phases of a highly complex production process, as opposed to outsourcing, is known as**
- A. right-to-work.
 - B. outsourcing.
 - C. vertical integration.
 - D. convergence.
92. **What did Mayans Farm**
- A. Chili peppers
 - B. Beans
 - C. Squash
 - D. All of the above
93. **Which of the following is an example of a site consideration when locating an industry?**
- A. The industry in question is bulk-reducing.
 - B. The manufacturing process is bulk-gaining.
 - C. The product is perishable.
 - D. The manufacturing process is labor-intensive.
94. **The largest producer and consumer of the pulses in the world is ____**
- A. Russia
 - B. India
 - C. China
 - D. Japan
95. **Scientific agricultural research began in this country during**
- A. mid 1700s
 - B. mid 1800s
 - C. mid 1900s
 - D. none of above
96. **Which type of manufacturing requires the lowest level of skill?**
- A. automobiles
 - B. computers
 - C. consumer electronics
 - D. textiles
97. **Geographer Derwent Whittlesey divided the world into agricultural regions (not including his area of nonexistent agriculture), ____ of which were classified as found in MDCs and ____ as found in LDCs.**
- A. 11 ; 1
 - B. 8 ; 11
 - C. 10; 1
 - D. 6 ; 5
98. **Iowa ranks #1 in this animal production**
- A. beef
 - B. hogs
 - C. sheep
 - D. Dairy
99. **The Smith-Hughes Act established**
- A. manufactured goods
 - B. scientific research
 - C. vocational agriculture
 - D. none of above
100. **One of the most important advances in all of history was:**
- A. Development of weaving
 - B. Permanent Houses
 - C. The dab going out of style
 - D. The invention of agriculture
101. **Which of the following crops is grown as Kharif crop in North India and Rabi crop in South India**
- A. Seasmum
 - B. Wheat

- C. Bajra
D. Ragi
102. **Because of the Ice Ages, early humans were forced to do which of the following?**
A. stop hunting and gathering
B. stay in caves and wait out the cold weather
C. control fires and plant more crops
D. move to warmer climates
103. **The biggest problem cattle producers faced was**
A. research
B. transportation
C. climate
D. none of above
104. **Cropping season from November to May is called**
A. Kharif
B. Rabi
C. Zaid
D. None of those
105. **After corn (maize), the most important crop in the U.S. mixed crop and livestock region is**
A. barley.
B. soybeans.
C. wheat.
D. beets.
106. **What developed most immediately after the rise of civilizations?**
A. religious leaders
B. specialized hunters
C. cooperative schools
D. grain-storage facilities
107. **Imagine a nomadic hunter-gatherer and a farmer of the Neolithic Era arguing with each other concerning their respective quality of life. Each thinks his quality of life is superior to the others. Which argument would most likely be made by the farmer?**
A. "I have much greater mobility."
B. "I have more personal freedom."
C. "I will live a longer, healthier life."
D. "I have access to a wider variety of foods."
108. **Wyoming ranks #1 in this animal production**
A. beef
B. hogs
C. sheep
D. Dairy
109. **Who invented the mechanical reaper?**
A. cryus mccormick
B. native americans
C. john deere
D. king cotton
110. **California ranks #1 in this animal production**
A. beef
B. hogs
C. sheep
D. Dairy
111. **Animal that is considered "alternative" animal agriculture**
A. dairy cattle
B. bees
C. swine
D. sheep

112. **Approximately three-fourths of the world's industrial production is concentrated in three regions, including which of the following?**
- A. astern Europe and southern Europe.
 - B. eastern North America and northwestern Europe.
 - C. East Asia and SW Asia.
 - D. Eastern N. America & SE Asia.
113. **A Neolithic settlement of farmers has begun using cattle as beasts of burden. As a result of their use of cattle, they are now able to craft more specialized tools and weapons, allowing them to do all of their work faster and more efficiently. Based on this passage, what can you conclude about the way cattle assisted the farmers?**
- A. The farmers ate the cows, so they do not need to spend their time hunting.
 - B. The farmers traded the cow's milk for metals and supplies to make their tools.
 - C. The farmers used the cows to help plow the fields, reducing the amount of human effort and time needed.
 - D. none of above
114. **Which livestock animal was domesticated first?**
- A. Goat
 - B. Chicken
 - C. Sheep
 - D. Horse
115. **When did the Mayan civilization start farming**
- A. 1880 bc - 250 AD
 - B. 2345 bc -290 AD
 - C. 6578 bc - 340 AD
 - D. 2358 bc - 147 AD
116. **The invention that allowed the transportation of meat anywhere in the country, anytime during the year, was the refrigerated**
- A. cotton gin
 - B. boxcar
 - C. railhead
 - D. none of above
117. **A name closely associated with shifting agriculture is —**
- A. Pastoral Nomadism
 - B. Transhumance
 - C. Slash and Burn farming
 - D. Plantation farming
118. **The new international division of labor reflects the growing importance of**
- A. vertical integration.
 - B. access to raw materials.
 - C. outsourcing.
 - D. just-in-time delivery.
119. **Which statement best explains why early civilizations were located in large river valleys/**
- A. Rivers contributed the resources needed for widespread agriculture to develop.
 - B. River valleys provided the natural obstacles needed to protect against conquest.
 - C. River valleys had the kind of temperate climate that humans are adapted to the best.
 - D. Rivers made it easier for people to travel the long distances needed to trade with others.
120. **In colonial times, the most widely grown cotton was**
- A. King Cotton

- B. manufactured cotton
C. Sea Island cotton
D. none of above
121. **What was the main function of the central government in early civilizations?**
A. rationing food
B. building housing
C. providing security
D. spreading religion
122. **Who was the Mayan leader**
A. Empower
B. Preist and King
C. Queen
D. Priest
123. **What type of agriculture is practiced by the largest percentage of the world's people?**
A. pastoral nomadism
B. hunting and gathering
C. dairying
D. intensive subsistence
124. **Where sow & their babies live 2-3 weeks**
A. outdoors
B. gestation crates
C. hoop buildings
D. none are correct
125. **Who announced the introduction of Rashtriya Krishi Vikas Yojana?**
A. Narendra Modi
B. Dr. Manmohan Singh
C. Atal Bihari Vajpayee
D. I. K. Gujral
126. **Which of the following is a Rbi crop?**
A. Rice
B. Maize
C. Wheat
D. Cotton
127. **Which type of agriculture is found primarily in developing countries?**
A. Plantation
B. Truck farming
C. Mediterranean
D. Livestock ranching
128. **A situation in which quantity supplied is greater than the quantity demanded**
A. Technology
B. Hunter-Gatherers
C. Agricultural Revolution
D. Surplus
129. **Why did the Neolithic people trade?**
A. to learn other people's language
B. to cross the desert
C. to get resources needed
D. get a rare pokemon
130. **Most popular Dairy Breed**
A. Jersey
B. Guernsey
C. Short Horn
D. Holstein
131. **What was the original way that ranchers got their heards to market?**
A. refrigerated box car
B. john deere
C. land grant
D. cattle drives

132. **Which event would be first on a time line?**
- A. People began to specialize
 - B. A barter economy developed
 - C. Food surpluses developed
 - D. none of above
133. **Animal Science is the study of**
- A. animal genetics
 - B. animal selection
 - C. animal nutrition
 - D. all of the above
134. **Which advances did the most to help sustain the growing human population during the Neolithic era?**
- A. increased scientific knowledge
 - B. improved hunting methods
 - C. new construction techniques
 - D. the development of agriculture
135. **Type of farming to meet family needs is known as:**
- A. Subsistence
 - B. Mixed
 - C. Organic
 - D. None of these
136. **What Are Some Farming Methods**
- A. Terrace Farming
 - B. All of the above
 - C. Slash and Burn
 - D. Raised Bed Farming
137. **By learning to create pottery, humans were able to increase the amount of food and supplies they could store. They also learned to create plaster by heating limestone and melted metal to create strong tools. Based on this information, what can you conclude about Neolithic humans?**
- A. They made important discoveries in medicine.
 - B. They learned all of their skills from neighboring tribes.
 - C. They were able to use fires to improve their lives in a number of ways.
 - D. none of above
138. **Slash and burn' agriculture is known as ____ in north-eastern states.**
- A. Jhumming
 - B. Podu
 - C. Valre
 - D. Khil
139. **What was the nickname given to the south's most important resource in the 1800's?**
- A. king cotton
 - B. land grant
 - C. trial and error method
 - D. native americans
140. **Thomas Malthus believed that**
- A. the government should encourage population growth in order to fully staff the factories being built during the Industrial Age.
 - B. the world would soon be overpopulated because population grows at an exponential rate while the food supply increases at an arithmetic rate.
 - C. the world would find new sources of food production to offset population growth.
 - D. population increase will continue because many religions discourage the use of contraceptives.

141. **Before Agriculture, what was the main way for people to get food?**
- A. Their food magically appeared from the clouds.
 - B. Their food came from hunting animals and gathering.
 - C. Their food came from farming large pieces of land.
 - D. none of above
142. **People who lived in large communities were able to spend less time farming and more time developing skills which eventually led to**
- A. food shortages
 - B. organized sports
 - C. polytheistic societies
 - D. specialization of labor
143. **The civilizations that provided a foundation for future civilizations were the Greeks and the**
- A. Romans
 - B. Americans
 - C. Europeans
 - D. none of above
144. **What were the main causes for the first interactions between ancient civilizations?**
- A. religion and the arts
 - B. education and sports
 - C. trade and warfare
 - D. science and exploration
145. **The crops sown in the summer between the Rabi and Kharif season is known as**
- A. Rabi
 - B. Kharif
 - C. Zaid
 - D. All of these
146. **Second most important cereal crop of India ____**
- A. Wheat
 - B. Rice
 - C. Maize
 - D. Bajra
147. **Which of the following is an equatorial crop?**
- A. Tea
 - B. Coffee
 - C. Rubber
 - D. Jute
148. **What was one result of the invention of the cotton gin?**
- A. Northern factory workers wanted to go to work on cotton plantations
 - B. cotton plantations went out of business
 - C. slave labor was no longer needed on plantations
 - D. cotton plantations were able to increase their production of the crop
149. **Agriculture means**
- A. farming
 - B. searching for animal hides
 - C. hunting
 - D. gathering
150. **Proposition 2 banned the use of**
- A. farrowing crates
 - B. enclosed hen houses
 - C. veal pens
 - D. All of the above
151. **Not including Corn, what is a major crop grown in the US?**
- A. lamb and goats
 - B. wheat

- C. fruit plantations
D. rice
152. **What was established to study and develop new agriculture methods?**
A. native americans
B. trial and error method
C. experiment stations
D. john deere
153. **Which animal meat has increased the most in the past 30 years?**
A. beef
B. pork
C. turkey
D. chicken
154. **What was the Mayans main crop**
A. Corn (maize)
B. Sunflowers
C. Potatoes
D. Carrots
155. **The Bhodan-Gramdan movement was initiated by**
A. Vinoba Bhave
B. Sardar Patel
C. Gandhiji
D. Jawaharlal Nehru
156. **Although many factory laborers in MDCs are paid \$ ___ per hour, factory laborers in LDCs may be paid less than \$ ___ per hour.**
A. 35 ; 1
B. 55 ; 2
C. 100 ; 20
D. 75 ; 15
157. **Are people who craft items with their hands.**
A. Artisans
B. Social Class
C. Civilization
D. none of above
158. **Which of the folloiwng types of agriculture is done in densely populated areas**
A. Intensive subsistence farming
B. Primitive Subsistence Farming
C. Plantation Agriculture
D. Commercial Agriculture
159. **Who invented the steel plow?**
A. john deere
B. king cotton
C. land grant
D. native americans
160. **Why Are These Types Important**
A. It would be very hard to grow crops and the crops wouldn't grow fast.
B. It's important because they are not great farmers.
C. It's important because they need to get better.
D. They need lots of plants.
161. **Which state was the harbinger of the Green Revolution in India?**
A. Punjab
B. Uttar Pradesh
C. Madhya Pradesh
D. Himachal Pradesh
162. **Which of the following is the largest producer of Groundnut?**
A. Karnataka
B. Gujarat
C. Assam
D. Andhra Pradesh

163. **What method developed to efficiently gain new knowledge?**
- Systematic scientific approach
 - experiment stations
 - trial and error method
 - cattle drives
164. **Which of the following country is a second largest producer of rice?**
- USA
 - China
 - Russia
 - India
165. **Is when people dig Canals (ditches) to supply water to their civilization from a nearby water source.**
- Irrigation
 - Canal
 - Domesticate
 - Agriculture
166. **Intensive subsistence agriculture**
- uses smaller farms
 - has a high agricultural density
 - uses animal power and some machines
 - All answers are true
167. **To tame wild animals and breed them for human use**
- Agricultural Revolution
 - Domesticate
 - Surplus
 - Specialization
168. **What change began the Neolithic Age?**
- trading
 - farming
 - hunting
 - building
169. **Agriculture emerged ____**
- after a cold spell resulted in new plants and animals.
 - as glaciers moved toward the equator bringing water.
 - In the Neolithic Age.
 - in the Paleolithic Age.

1.2 The Development of Agriculture

- Because an average wage is \$35/hour in a developed country and \$1/hour with limited benefits in a developing country, much labor-intensive work is outsourced to LDCs.**
 - Site-capital
 - Site-land
 - Site-bulk gaining
 - Site-labor
- ____ is the largest jute-producing country in the world.**
 - China
 - Bangladesh
 - India
 - Thailand
- Humans have obtained food in a variety of ways. Which method below emerged last?**
 - Hunting & gathering
 - Vegetative planting
 - Seed agriculture
 - The Colombian Exchange

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4. **Among the following which Indian state produces the largest quantity of pulses?**
- A. Maharashtra
 - B. Uttar Pradesh
 - C. Madhya Pradesh
 - D. Rajasthan
5. **The number of people under age 15 and over age 64 compared to the number of people active in the labor force.**
- A. demography
 - B. zero population growth
 - C. overpopulation
 - D. dependency ratio
6. **Which of the Agricultural Revolutions did not include increased usage of complex machines?**
- A. First Agricultural Revolution
 - B. Second Agricultural Revolution
 - C. Third Agricultural Revolution
 - D. Green Revolution
7. **Which animal was the first to be domesticated?**
- A. Duck
 - B. Horse
 - C. Dog
 - D. Turkey
8. **the Third Agricultural Revolution is also known as**
- A. GMO Revolution
 - B. Seed Agricultural Revolution
 - C. Industrial Revolution
 - D. Green Revolution
9. **What development enabled man to live as farmers?**
- A. Warm clothing
 - B. Domestication of plants & animals
 - C. Pottery
 - D. Wheel
10. **The second agricultural revolution coincided with**
- A. the Industrial Revolution.
 - B. the first wave of European migration
 - C. Imperialism
 - D. the Enlightenment.
11. **Which sector has grown in the fastest in developed countries?**
- A. primary
 - B. secondary
 - C. tertiary
 - D. none of above
12. **What was the result of surplus food production?**
- A. Farmers had more land to farm.
 - B. People became lazy and refused to work.
 - C. It led to a division of labor and a more productive society.
 - D. It made hunting food more important.
13. **The location of steel mills in the United States are scarce. Most mills are still present in southern Lake Michigan because it is centrally located to distribute products world-wide.**
- A. Situation-bulk gaining
 - B. Situation-neither
 - C. Site-labor
 - D. Site-capital
14. **Your Clyde's Zippers have decided to locate their manufacturing industry two miles from Maurice's Dress manufacturers. They decided that being close to their main consumer saved time in transportation although transportation costs were relatively inexpensive.**

- A. Situation-bulk gaining
B. Situation-bulk reducing
C. Situation-neither
D. Situation-both
15. **The long staple variety is now grown in parts of ____**
A. Jammu & Kashmir and Gujarat
B. Haryana and Punjab
C. West Bengal and Bihar
D. Assam and Maharashtra
16. **A Country with an HDI of .92 is most likely what type of country**
A. MDC
B. LDC
C. In between
D. none of above
17. **A farmer who converts forested land and marshland into cropland has**
A. Fulfilled the promise of the Green Revolution
B. Increased the land's carrying capacity
C. Shown the advantages of the Colombian Exchange
D. Increased the yield of the crops on her land
18. **The period of rapid technological advancement that began around 1800 is known as the**
A. Agricultural Revolution
B. Roman Empire
C. Sumerian Standard of Ur
D. Industrial Revolution
19. **As a result of the Columbian Exchange, which crop was transferred to Europe from the Americas and later spread through the world?**
A. Maize(corn)
B. Rice
C. Olives
D. Wheat
20. **A mining company operates in which industry sector?**
A. Primary
B. Secondary
C. Quaternary
D. Quinary
21. **Most assembly and parts plants for cars today are located in the interior United States, from Michigan to Alabama, the corridor known as "auto alley." Most of these plants are clustered in Michigan and nearby northern states because that makes for easier transportation costs to market demanders. For example, a seat manufacturer sets up within an hour of the final assembly plants because it is large and bulky and they need to be shipped rather quickly because they are not being saved in inventory.**
A. Situation-bulk reducing
B. Situation-bulk gaining
C. Site-labor
D. Site-capital
22. **Fill in the Blank: Farmers used ____ or ____ to help plant grow.**
A. Animal Manure or Compost
B. Animal Compost or Seeds
C. Animal Seeds or Manure
D. Animal Livestock or Compost
23. **Adapting plants or taming animals for human use is called-**
A. gathering
B. domestication
C. herding
D. botany

24. **Agriculture, Irrigation and Power Projects were given highest priority in which among the following plans?**
- First Five year plan
 - Second Five year plan
 - Third Five year plan
 - Fourth Five year plan
25. **Your Darren Creek timber company is located near the sawmill in Denver, Colorado. They mass produce chairs and classroom materials that will be transported via train across the Midwest.**
- Situation-bulk gaining
 - Situation-bulk-reducing
 - Site-labor
 - Site-neither
26. **Which statement best defines the Neolithic Revolution?**
- major battle fought between people of Asia and Africa
 - the shift from food gathering to food producing
 - the shift from food gathering to hunting
 - a major battle fought between the peoples of Asia
27. **Medical technology from MDCs to LDCs has reduced death rates in LDCs. This is a ___ form of diffusion.**
- Relocation
 - Hierarchical
 - Stimulus
 - Contagious
28. **Irrigation increases the amount of food farmers are able to grow. When farmers produce more food than they need, it's called a-**
- division of labor
 - food shortage
 - food surplus
 - specialized task
29. **Your Fridge for Sale wants to expand their stainless steel refrigerator company. They have decided to create their industry in Northern South Africa, far away from the Chromium mines which is the main component of stainless steel. The CEO's decided that the refrigerator business needed to be close to the markets and the middle class who will be purchasing (hopefully) in high demand.**
- Site-labor
 - Situation-bulk reducing
 - Situation-bulk gaining
 - Site-land
30. **True or False: Many people feel that organic farming is worse for health.**
- True
 - False
 - Can't Answer
 - Neither True or False
31. **A country that is mostly rural and engages in mainly primary level of economic activity is probably a**
- developed nation
 - developing nation
 - industrialized nation
 - primary nation
32. **what were the cons to ancient irrigation?**
- There was no cons everything was perfect
 - there was little water
 - very dry things can't grow their crops
 - none of above

33. **According to Von Thunen, what type of agriculture is produced closest to market?**
- A. dairying
 - B. grain agriculture
 - C. ranching
 - D. plantation farming
34. **Deforestation has resulted in ____**
- A. More farmland in some places but more desertification in others.
 - B. Less farmland in some places but more desertification in others
 - C. Less farmland in some places and less desertification in others
 - D. No noticeable change in the amount of farmland or desertification
35. **According to geographer Carl Sauer, agriculture probably first originated in**
- A. the Fertile Crescent.
 - B. Southeast Asia
 - C. South America
 - D. Europe
36. **Mediterranean agriculture must be practiced in a climate that is**
- A. Wet summer, dry winter
 - B. Plentiful rainfall year round
 - C. Dry summer, cool moist winter
 - D. Mild and dry year round
37. **Which society lived in small groups constantly moving to find food, water, and shelter?**
- A. Hunter-Gatherer
 - B. Early Agriculture
 - C. Civilization
 - D. none of above
38. **Which of the following statements best describes Neolithic people?**
- A. They used tools primarily made from bronze.
 - B. They continued to move from place to place to hunt animals for food.
 - C. They used the same tools that Paleolithic people used.
 - D. They could settle in one place because they had a stable food supply.
39. **Minimum temperature of ____ degree and ____ degree during the growing season.**
- A. 22°C and 30°C
 - B. 20°C and 27°C
 - C. 15°C and 22°C
 - D. 18°C and 25°C
40. **A business in the food court of a shopping centre is operating in which 2 industry sectors?**
- A. Primary and Quinary
 - B. Secondary and Tertiary
 - C. Quaternary and Secondary
 - D. Tertiary and Primary
41. **Fill in the blank: When the crops are ripe, the farmer ____ them.**
- A. Irrigate
 - B. Sow
 - C. Harvest
 - D. Grow
42. **My software communication company was not doing well on the East Coast. Based on rumors of prosperity and loans in Silicon Valley California, we picked up shop and moved our business there. We were given a great loan to start our pioneering company and in 10 years, we were able to pay our loan in full. I feel that many people have moved to California for this**

- reason, which has stimulated the economy as a strong industrial center.**
- A. Situation-bulk gaining
 - B. Site-land
 - C. Site-capital
 - D. Site-labor
43. **A clothing store operates in which industry sector?**
- A. Primary
 - B. Secondary
 - C. Quaternary
 - D. Tertiary
44. **Raising animals to help humans is called ____**
- A. domesication
 - B. maize
 - C. experimented
 - D. none of above
45. **A place where people and machines join together to mass produce goods.**
- A. Cartel
 - B. Corporation
 - C. Factory
 - D. Urbanization
46. **What is the basic support system needed to keep an economy going called?**
- A. economic activity
 - B. infrastructure
 - C. Gross Domestic Product
 - D. Skills of workers
47. **If Country A has a low growth rate, high literacy rate, and largely tertiary level economic activity, then it is**
- A. developing
 - B. in transition
 - C. developed
 - D. in North Africa
48. **A plant with a lot of small seeds that are used as food for people and birds are called ____**
- A. Maize
 - B. Wheat
 - C. Millets
 - D. Rice
49. **What is the meaning of the term agriculture?**
- A. Farming
 - B. Changing animals or plants for human use
 - C. A culture that is different than yours
 - D. A culture that is similar to yours
50. **Megaliths were huge stone monuments that may have been used for religious gatherings. An example would be -**
- A. Stonehenge in England
 - B. The Pyramids of Giza
 - C. Machu Picchu in Peru
 - D. The Hanging Gardens of Babylon
51. **If people had extra food, they would ____ it for later.**
- A. eat
 - B. surplus
 - C. store
 - D. none of above
52. **True or False: Organic Farming was a traditional method.**
- A. True
 - B. False
 - C. Neither True or False
 - D. none of above

53. **Which of the following is an example of domestication?**
- A. a personal diary or journal
 - B. someone's religious beliefs
 - C. training a horse to ride or pull a cart
 - D. learning how to control fire
54. **All of the following are types of subsistence agriculture EXCEPT**
- A. pastoral nomadism.
 - B. shifting cultivation.
 - C. swidden agriculture
 - D. truck farming
55. **One thing that occurred, or happened, during the New Stone Age that helped people grow plants for food was -**
- A. a climate change
 - B. a growing interest in pottery
 - C. archaeologists taught survival skills
 - D. migration around the world
56. **Fill in the blanks: The farmer cares for the crops by irrigating them and protecting them from ____ .**
- A. Domestic Animals
 - B. Wild Animals
 - C. None of these
 - D. All of these
57. **Southwest Asia, Southeast Asia, East Asia, Mesoamerica, and the Sub-Saharan regions were all**
- A. Sites where the Second Agricultural Revolution began
 - B. Areas noted for widespread terracing
 - C. Hearths of plant domestication
 - D. Regions where the Third Agricultural Revolution failed
58. **Which of the following agricultural products are not cash crops?**
- A. cocoa
 - B. coffee
 - C. cotton
 - D. corn
59. **Farmers transplanting paddy into flooded fields in ____ state .**
- A. Andhra Pradesh
 - B. Bangladesh
 - C. Gujarat
 - D. none of above
60. **Archaeologists thought that farming began ____**
- A. when people were nomads.
 - B. in many areas around the same time.
 - C. after people learned farming techniques from North America.
 - D. none of above
61. **Shift cultivation and slash-and-burn farming are often associated with**
- A. subsistence farming
 - B. agribusiness
 - C. Rostow's TAKE OFF stage
 - D. more developed countries (MDCs)
62. **Why did farming lead to permanent villages?**
- A. people grew too much food to travel
 - B. people needed to build storage for crops
 - C. people needed to stay and tend their crops
 - D. people had to make pottery to hold food
63. **Yes or no? Do television and radio provide information only for seeds**
- A. Yes

- B. No
C. Can't Answer
D. none of above
64. **In which country millets are grown as fodder?**
A. China
B. Brazil
C. Egypt
D. USA
65. **A CEO is an example of which sector?**
A. secondary
B. tertiary
C. quaternary
D. quinary
66. **Eventually, farming communities grew into -**
A. countries
B. towns
C. shrines
D. straits
67. **According to Carl Sauer, there are two distinctive types of agriculture**
A. vegetative planting and double-cropping
B. shifting cultivation and vegetative planting
C. vegetative planting and seed agriculture
D. slash-and-burn agriculture and double-cropping
68. **Approximately, what percentage of total workforce of India is engaged in agricultural and allied sector activities?**
A. 45
B. 55
C. 65
D. 75
69. **Who regulates the markets in agricultural products in India?**
A. Essential Commodities Act, 1955
B. Agricultural Produce (Grading and Marking) Act, 1937
C. Agricultural Produce Market Committee Act enacted by States
D. Food Products Order, 1956 and Meat and Food Products Order, 1973
70. **Arithmetic density is**
A. the number of people per square mile of inhabitable land.
B. the number of people per square mile of arable land.
C. the number of farmers per square mile of arable land.
D. the number of people per unit of measurement.
71. **What does Gross Domestic Product (GDP)?**
A. total value of all goods and services produced in a country in one year
B. total value of all goods and services made by one person
C. something that is really yucky at home
D. total value of a country's exports
72. **Which among the following is most important for agricultural productivity?**
A. Irrigation
B. Rainfall
C. Land area
D. Fertilizer
73. **True or False: Organic Farming used bad fertilizers and chemicals.**
A. False
B. True
C. Neither True or False
D. none of above

74. **Mining and farming are part of which economic sector?**
- Primary
 - Secondary
 - Tertiary
 - Quaternary
75. **Crop rotation & the enclosure movement were hallmarks of:**
- The First Agricultural Revolution
 - The Second agricultural revolution
 - the Third agricultural revolution
 - the Green revolution
76. **My carpet business has done wonderful lately. The process to manufacture my carpets is very detailed. First, the cotton fibers are spun together, then they are weaved into fabric, and then I must sew and tailor the final product. Because Seattle is a large consumer base for finished carpets, I have chose to locate my business in Spokane, Washington, not far from the Seattle markets.**
- Situation-bulk gaining
 - Situation-bulk reducing
 - Site-bulk gaining
 - Site-labor
77. **Typically, slash & burn agriculture leads to:**
- shifting cultivation
 - plantation farming
 - aquaculture
 - pastoralism
78. **The movement to fence in fields in order to farm more effectively, at the expense of poor peasants who relied on common fields for farming and pasture**
- Enclosure
 - Crop Rotation
 - Agricultural Revolution
 - Industrious Revolution
79. **The Neolithic Revolution refers to the time when early humans-**
- mastered fire.
 - developed agriculture and settled down.
 - migrated from Africa.
 - organized governments
80. **Which of the following works to protect against the exploitation of agricultural labor?**
- fair trade
 - all agribusiness
 - plantation farming
 - suitcase farming
81. **Low birth rate ____**
- More developed
 - Less developed
 - Newly industrialized
 - none of above
82. **Which crop is associated with intensive agriculture?**
- Corn
 - Rice
 - Wheat
 - Cotton
83. **Which of the following is not a primary economic activity?**
- carpenter
 - lumberjack
 - orange grower
 - police officer

84. **Answer the following: Which Revolution was invented in the mid 20th century?**
- A. The revolution that could produce less food per crop
 - B. The revolution that could produce more food but not per crop.
 - C. The revolution that could produce no crop only.
 - D. The revolution that could produce more food per crop.
85. **True or False: Manure or Compost are natural chemicals.**
- A. True
 - B. False
 - C. Can't Answer
 - D. none of above
86. **Oil Co. in Texas has chosen to build their industry closest to the oil rig. They decided that the gasoline is easier to transport by truck than the raw oil would be to transport to the refinery.**
- A. site-capital
 - B. situation-bulk reducing
 - C. situation-bulk gaining
 - D. site-land
87. **Life Expectancy is a factor in a country's ____**
- A. Human Development Index
 - B. Human Division Indigo
 - C. Gross Domestic Product
 - D. Literacy Rate
88. **Corn was first domesticated in**
- A. the Tibetan Plateau
 - B. the Canadian Prairie.
 - C. Northern Argentina.
 - D. Central Mexico
89. **Which agency is responsible for procurement, distribution and storage of food grain production in India?**
- A. Ministry of Agriculture
 - B. Food Corporation of India
 - C. NAFED
 - D. TRIFED
90. **Genetically modified organisms (GMOs) and hybrid seeds are often associated with**
- A. 1st Agricultural Revolution
 - B. 2nd Agricultural Revolution
 - C. 3rd Agricultural Revolution
 - D. subsistence farming
91. **The Omaha World Herald building is located in Downtown Omaha. Because the newspaper is a perishable product, it is located near the major markets of downtown buyers. Although many people get their news from computers, there are still many Omaha-ins that want their newspaper delivered that day.**
- A. Site-labor
 - B. Situation-neither
 - C. Situation-bulk gaining
 - D. Site-capital
92. **Carving into hills and mountains is a form of farming called ____**
- A. irrigation
 - B. Rice farming
 - C. Terraced Farming
 - D. urbanization
93. **What is the difference between arithmetic and physiologic population density?**
- A. Arithmetic counts farmers
 - B. Physiologic counts farmers
 - C. Arithmetic counts only farmland
 - D. Physiologic counts only farmland

94. **All of the following are true about the Green Revolution EXCEPT**
- A. Takes place mainly in science laboratories
 - B. Only tested on farms in MDCs
 - C. Allows for plants and animals that grow in conditions they normally would not
 - D. Led to the increase in industrial farming
95. **All of these are major agricultural hearths EXCEPT**
- A. Southwest Asia
 - B. Southeast Asia
 - C. North Asia
 - D. East Asia
96. **In India National Food security Act(NFSA) was introduced in the year**
- A. 2013
 - B. 2014
 - C. 2017
 - D. 2019
97. **Why did Hunter-Gatherers begin to farm?**
- A. all of the animals died
 - B. bad weather never let any plants go
 - C. to have a constant source of food
 - D. none of above
98. **___ is the most popular beverage in world.**
- A. Coffee
 - B. Cocoa
 - C. Tea
 - D. none of above
99. **The Second Agricultural Revolution coincided with**
- A. the Industrial Revolution
 - B. the first wave of European migration
 - C. Imperialism
 - D. the Enlightenment
100. **The domestication of plants and animals occurred in the ___**
- A. First Agricultural Revolution
 - B. Second Agricultural Revolution
 - C. Colombian Exchange
 - D. Industrial Revolution
101. **What stage of Rostow's Development Index does technology first get introduced?**
- A. 1-Traditional Society
 - B. 2-Preconditions of takeoff
 - C. 3-takeoff
 - D. 4-drive to maturity
102. **Which of the following is NOT associated with the Green Revolution?**
- A. GMOs
 - B. Herbicides
 - C. Organic Farming
 - D. Pesticides
103. **Why did people move to the cities during the Industrial revolution?**
- A. Jobs in factories
 - B. Jobs on the farm
 - C. Family
 - D. Friends
104. **In recent years what type of agricultural practice has been most responsible for deforestation of the rain forest in parts of Central and South America?**
- A. Swidden agriculture.
 - B. aquaculture
 - C. livestock ranching
 - D. truck farming

105. **Which soil is particularly suited for cotton cultivation?**
- A. Sandy Soil
 - B. Black Soil
 - C. Loamy Soil
 - D. Alluvial Soil
106. **Agriculture is another word for ____**
- A. farming
 - B. risks
 - C. settlements
 - D. none of above
107. **All of the following are assumptions made in the von Thunen model EXCEPT**
- A. Terrain has forested areas with several small lakes and rivers
 - B. Farmers sell all of their harvest
 - C. The city is located centrally within an isolated state
 - D. Soil and climate are the same
108. **Toyota operates in which industry sector?**
- A. Primary
 - B. Secondary
 - C. Quaternary
 - D. Quinary
109. **What is a cause of desertification?**
- A. Cutting down trees
 - B. Dumping a sand box
 - C. Flooding
 - D. Dehydration
110. **The most important reason why most people in North China grow crops other than wet rice is**
- A. Government subsidies
 - B. Cultural preference
 - C. Climate
 - D. Soil
111. **How introduced the First "Five" year plan in India? (year 1951)**
- A. Mr. Jawaharlal Nehru
 - B. Mrs. Indira Gandhi
 - C. Mr. Atal Bihari Vajpayee
 - D. Dr. Manmohan Singh
112. **Because I live in the United States, the entrepreneur fever is far more acceptable than in other countries. I was able to open my own bakery, Mac's mini-muffins because I was able to obtain a wonderful loan from the city who is working to "buy local." I realized that I never would have accomplished my dreams if I still lived in my native country.**
- A. Site-capital
 - B. Situation-bulk gaining
 - C. Site-labor
 - D. Situation-Bulk reducing
113. **People began to practice agriculture, or farming, during the -**
- A. the Paleolithic Era (Old Stone Age)
 - B. the Mesolithic Era (Middle Stone Age)
 - C. the Neolithic Era (New Stone Age)
 - D. The Industrial Revolution
114. **The minimum number of people needed to support a business is called the**
- A. range
 - B. threshold
 - C. bid rent
 - D. radius
115. **A rapid population growth during the 1900s contributed to the ____ aimed to increase food supplies to support the growing population.**

- A. 1st Agricultural Revolution
 - B. 2nd Agricultural Revolution
 - C. 3rd Agricultural Revolution
 - D. 2nd Industrial Revolution
116. **Maize is originated in ____**
- A. Central America
 - B. Cuba
 - C. South America
 - D. Thailand
117. **New ideas, methods, or devices are known as-**
- A. patriots
 - B. anthropologists
 - C. techniques
 - D. innovations
118. **Your textile industry is a labor-intensive industry. Therefore, China produces 2/3rds of the world's cotton thread (the spinning part of textile industry) because it is labor intensive and it can be done for low wages in this country.**
- A. Site-capital
 - B. Site-labor
 - C. Site-situation
 - D. Situation-labor
119. **According to Rostow's development model, a country with a lot of heavy industry that uses modern technology is in Stage**
- A. Two
 - B. Three
 - C. Four
 - D. Five
120. **In early civilizations, women ____**
- A. spent time hunting
 - B. spent time working on the crops
 - C. spent time developing tools
 - D. spent time taking care of the children
121. **Production of agricultural products for the market is called:**
- A. hunting and gathering
 - B. sedentary cultivation
 - C. subsistence agriculture
 - D. commercial agriculture
122. **Deforestation has resulted in**
- A. more farmland in some places but more desertification in others
 - B. less farmland in some places but more desertification in others
 - C. less farmland in some places and less desertification in others
 - D. no noticeable change in the amount of farmland or desertification
123. **Which of the following describes the enclosure movement of the eighteenth century?**
- A. The land was divided into long, narrow strips that were not enclosed by fences or hedges.
 - B. The land was not divided but worked communally as villages labored in large fields side by side.
 - C. The land was divided into plots bounded by fences to farm more effectively.
 - D. The land was not divided, so the lord of the manor could directly control agricultural techniques and introduce farming innovations.
124. **A cotton plant needs high temperature between ____ degree an ____ degree.**
- A. 22°C and 32°C
 - B. 30°C and 33°C
 - C. 15°C and 20°C
 - D. 20°C and 30°C

125. **Pepsi has decided to locate their newest production plant next to Mall of America in Minnesota. They have chosen to locate just 4 miles east of the mall for they know consumers get thirsty and want more a cool soda while shopping.**
- A. Situation-bulk gaining
 - B. Situation-bulk reducing
 - C. Site-bulk gaining
 - D. Site-land
126. **Which of the following statement is not correct?**
- A. India is the second largest producer of fruits in the world
 - B. India is the biggest producer of vegetables in the world
 - C. Production of fruits, vegetables and spices called horticulture
 - D. Uttar Pradesh is the largest producer of the wheat in India
127. **Which of the following is NOT a physical site characteristic?**
- A. amount of rainfall
 - B. type of soil
 - C. elevation
 - D. location relative to transportation
128. **When a country suffers from a "brain drain" it means the country has experienced**
- A. an emigration of working age males.
 - B. an emigration of educated professionals
 - C. an emigration of political leaders.
 - D. an emigration of female executives
129. **What is one example of a risk Hunter-Gatherers faced?**
- A. Life was easier in warmer weather.
 - B. If there were problems with their food supply, they could starve.
 - C. People found new plants to grow near rivers.
 - D. none of above
130. **Southwest Asia, Southeast Asia, East Asia, Mesoamerica, and the Sub-Saharan regions were all ____**
- A. Sites where the Second Agricultural Revolution began
 - B. Areas noted for widespread terracing
 - C. Hearths of plant domestication
 - D. Regions where the Third Agricultural Revolution failed
131. **What were the pros to irrigation**
- A. there was no pros it was a terrible idea
 - B. It gave them a stable food supply and growth throughout the year's
 - C. It is a type of ice cream
 - D. it was for crops to grow and help people to eat is was created by Islam
132. **What is domestication?**
- A. the process of changing plants/animals to make them more useful to humans
 - B. farming
 - C. creation of something
 - D. movement of people
133. **When did people experiment with growing different crops?**
- A. when there was animals there
 - B. when there was plenty of rain that year
 - C. when the river was dry
 - D. none of above
134. **Telstra operates in which industry sector?**
- A. Primary

- B. Secondary
C. Quaternary
D. Tertiary
135. **Which sector of the economy is agriculture based on?**
A. primary
B. secondary
C. tertiary
D. quaternary
136. **A major benefit to crop rotation would be**
A. Several different crops produced in the same year
B. Nitrogen is put into the soil, which is needed for plants
C. Requires less manual labor
D. Farmers can replenish the soil and improve agricultural productivity
137. **What is the rank of India in fruit production?**
A. 1
B. 4
C. 2
D. 5
138. **A farmer who converts forested land and marshland into crop land has —**
A. Fulfilled the promise of the Green Revolution
B. Increased the land's carrying capacity
C. Shown the advantage of the Colombian Exchange
D. Increased the yield of the crops on her land.
139. **Which of the following is true about slash-and-burn agriculture in the 21st century?**
A. It can take decades to replenish the soil with nutrients
B. Farmers stay in one place
C. Rain forests are not at risk
D. Nitrogen is removed from the soil
140. **Countries with high birth rates, and a large % of young people would be considered:**
A. More Developed
B. Core Countries
C. Wealthy Countries
D. Developing Countries

1.3 Agriculture In India

1. **___ is called the King of Fiber.**
A. Jute
B. Silk
C. Cotton
D. none of above
2. **What are Non food crops**
A. Cotton
B. Fibre crops
C. Rubber
D. All
3. **Agriculture is one of the most important ___ in the world.**
A. Common activity
B. Favorable activity
C. Economic activity
D. General activity
4. **Monsoon crops is also known as**
A. Rabi crops

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- B. Kharif crops
C. None of these
D. none of above
5. **Tinu's father had used the help of a buffalo to plough. What is this process called ____**
A. Helping
B. Ploughing
C. Agriculture
D. Domestication.
6. **The full form of HYV seeds is ____**
A. Hygh yelding varity seeds
B. High yeilding variety seeds
C. High yielding variety seeds
D. Hyigh yielding variety seeds
7. **Sugarcane is used to make sugar.**
A. True
B. False
C. May be
D. none of above
8. **Jute is also called the ____ .**
A. Golden Fiber
B. Yellow Fiber
C. Black Fiber
D. none of above
9. **____ is the word's largest producer of tea.**
A. India
B. china
C. sri lanka
D. iran
10. **Agriculture is the main occupation for ____**
A. Forest people
B. Farmers
C. Villages
D. Towns
11. **The green revolution was launched in India in ____**
A. 1960
B. 1947
C. 1950
D. none of above
12. **____ is known as the Father Of India's Green Revolution.**
A. Lal Bahadur Shastri
B. Gandhi ji
C. MS Swaminathan
D. none of above
13. **Jowar, bajra and ragi are called ____**
A. millets
B. cereals
C. pulses
D. none of above
14. **Which type of crop is sown in winters and harvested in summers?**
A. Rabi Crops
B. Kharif Crops
C. Both
D. None
15. **Which is called the golden fibre?**
A. Cotton
B. Jute
C. Silk
D. none of above
16. **Jagraj Singh is a farmer living in Bikaner, Rajasthan .**
A. millets, pulses and wheat
B. rice
C. fruits
D. coffee

17. **Goa is mainly known for**
A. cashewnuts
B. spices
C. rice
D. none of above
18. **Consolidation of holdings refers to:**
A. conservation of scattered into a unified holding
B. take over of small holdings by the government
C. provision of inputs for higher output
D. all of these
19. **Which is not an example of Kharif Crops?**
A. Rice
B. Jute
C. Wheat
D. Maze
20. **___ of indians are engaged in farming.**
A. 1/3
B. 1/4
C. 2/3
D. 3/4
21. **Horticulture is a practice of growing ___**
A. Flowers and Rice
B. Fruits and grains
C. Flowers, Fruits and Vegetables
D. Cereals and Fruits
22. **This is a winter crop**
A. millet
B. wheat
C. maize
D. mustard
23. **Which state is the chief producer of spices in India?**
A. Karnataka
B. Kerala
C. Bihar
D. none of above
24. **Kerala is the chief producer of ___**
A. Pulses
B. Millets
C. Spices
D. none of above
25. **India is the largest producer of ___ in the World.**
A. Rice
B. Jute
C. Wheat
D. Grams
26. **___ revolution helped the farmers.**
A. Red
B. Yellow
C. Blue
D. Green
27. **Apples and saffron are mainly grown in**
A. punjab
B. Hrayana
C. Jammu and kashmir
D. none of above
28. **We get tea from ___ .**
A. Seeds
B. Leaves
C. Flowers
D. none of above

29. **We get coffee from ____ .**
A. Seeds
B. Leaves
C. Flowers
D. none of above
30. **What are the 2 groups of crops grown in India?**
A. Cash Crops & Food Crops
B. Rabi & Kharif Crops
C. none
D. none of above
31. **Which are the two main beverage crops produced in India?**
A. Sugarcane and oil seeds
B. Tea and coffee
C. Jowar and Bajra
D. none of above
32. **____ is known as the milk man of India.**
A. Subhash Chandra Bose
B. MS Swaminathan
C. Verghese Kurien
D. none of above
33. **Rice is a ____ crop.**
A. Food Crop
B. Cash crop
C. None of these
D. none of above
34. **The first completely organic state of India.**
A. Maharashtra
B. Sikkim
C. Karnataka
D. none of above
35. **Millets are also called ____ .**
A. Dry crops
B. Green crops
C. All of the above
D. None of the above
36. **Which country is the leading producer of rice?**
A. Japan
B. India
C. Sri Lanka
D. China
37. **The 1st Green Revolution took place in**
A. 1960s
B. 1970s
C. 1980s
D. 1990s
38. **Coffee and cocoa are grown in ____ .**
A. Karnataka, Kerala and Tamil Nadu
B. Kerala and Uttarakhand
C. Tamil Nadu and Uttar Pradesh
D. none of above
39. **Ramu's house is in Haryana. He invited his friends to his house to have food, while they came to play. His friends were very delighted to see all the different types of foods made of ____ because their state produces a lot of ____**
A. Grains
B. Rice
C. Wheat
D. Maize
40. **Assam is known mainly for growing ____**
A. coffee
B. tea
C. rice
D. none of above

41. **Plants grown for decorative purpose are known as ____**
A. Flowering Plants
B. Ornamental Plants
C. Cultivating Plants
D. none of above
42. **India is ranked as the ____ largest exporter of agricultural products.**
A. 3rd
B. 1st
C. 5th
D. none of above
43. **____ is mainly obtained from Punjab and Haryana**
A. Jute
B. wheat
C. pulses
D. none of above
44. **What is agriculture?**
A. to eat crops
B. means the cultivation of land to produce crops
C. to cut trees and plants
D. none of above
45. **Cultivating of flowering plants is known as ____**
A. Agriculture
B. Horticulture
C. Floriculture
D. none of above
46. **What are millets**
A. Jowar, bajra, ragi
B. Jowar, bajra, wheat
C. Bajra, jowar, peas
D. none of above
47. **Coffee is a beverage grown in ____**
A. Maharashtra
B. Karnataka
C. Gujarat
D. none of above
48. **The Green Revolution took place in**
A. 1960s
B. 1970s
C. 1980s
D. 1990s
49. **How much of the Indian population depend on agriculture?**
A. 80%
B. 70%
C. 75%
D. 60%
50. **____ are also known as coarse grains.**
A. Millets
B. Wheat
C. rice
D. none of above
51. **By doing this work, people earn a living. These works are are called ____**
A. Agriculture
B. Occupation
C. Service jobs
D. none of these
52. **Agrarian reforms refer to**
A. technical reforms in agriculture
B. land reforms in agriculture
C. both (a) and (b)
D. neither (a) nor (b)

53. **India ranks ____ in the world for fruit production**
A. first
B. second
C. third
D. none of above
54. **What do farmers in villages do? 1. Grow crops 2. Help the family members 3. Domesticate animals 4. Trade goods**
A. 1 & 2
B. only 3
C. 1 & 3
D. All of these
55. **Cash crops in India**
A. cotton
B. jute
C. sugarcane
D. all of the above
56. **The full form of MSP is**
A. Maximum support price
B. Minimum support price
C. Multiple support price
D. Maximum special price
57. **Cotton is mainly grown in ____ soil**
A. red
B. laterite
C. black
D. none of above
58. **Which of the following is a technical reform under the new agriculture strategy in agriculture in India?**
A. Regulation of rent
B. Consolidation of holdings
C. Ceiling on land holdings
D. Use of chemical fertilizers
59. **what is raw material?**
A. any material that satisfy our needs.
B. something that gets spoiled quickly.
C. The basic material from which something is made; for example sugarcane is a raw material and sugar is the product
D. none of above
60. **People in the factory turn raw materials into ____**
A. Processed items
B. Usable goods
C. Manufactured goods
D. none of these
61. **What are food crops**
A. Sugarcane
B. Rubber
C. Cotton
D. none of above
62. **Simple subsistence farming means**
A. Cultivation on small patches
B. Podu cultivation
C. Shifting cultivation
D. All the above
63. **Meghalay and Nagaland grow ____ fruit**
A. oranges
B. banana
C. apples
D. none of above
64. **Tea is grown in ____**
A. Kerala
B. Assam
C. Gujarat
D. none of above

65. **What is the staple food crop of sothern india?**
A. sugar cane
B. rice
C. wheat
D. maize
66. **___ is called the Golden Fiber.**
A. Cotton
B. Jute
C. Silk
D. none of above
67. **Which is the chief and most popular beverage in India?**
A. Coffee
B. Tea
C. Cocoa
D. none of above
68. **Mizoram mainly grows ___**
A. wheat
B. sugarcane
C. sweet potato
D. none of above
69. **Millets are ___ seeds.**
A. Dry
B. Editable
C. Harmful
D. Healthy
70. **In which farming, a single crop grown on large area**
A. Intensive subsistence
B. Simple substistence
C. Commercial
D. All
71. **What type of fishing is done in rivers, ponds and lakes?**
A. Marine fishing
B. Inland Fishing
C. Fresh water fishing
D. Bay Fishing
72. **Which of the following is a fibre crop?**
A. Rice
B. Wheat
C. Jute
D. Sugarcane
73. **The crops grown with the onset of monsoon are ___ crops.**
A. Kharif
B. Zaid
C. Rabi
D. none of above
74. **___ is the most popular beverage in India.**
A. Coffee
B. Tea
C. Cocoa
D. none of above
75. **agriculture does not consists:**
A. Fishing
B. Buissness
C. Forestry
D. horticulture
76. **Which country is the 2nd largest producer of tea in the world?**
A. India
B. Malaysia
C. China
D. Japan

77. **In these, which are all raw materials** ____
- A. milk, cotton, tea
 - B. meat, clothes, eggs
 - C. jute, bags, coffee
 - D. none of these
78. **Full form of HYV seeds is**
- A. Heavy yeild variety
 - B. Higher yield variety
 - C. High yielding variety
 - D. High yield value
79. **wheat is a ____ crop.**
- A. food crop
 - B. cash crop
 - C. agriculture
 - D. raw metirials
80. **Which of these is not a Rabi crop?**
- A. Wheat
 - B. Barley
 - C. maize
 - D. none of above
81. **the other name of jaggery**
- A. gur
 - B. arci
 - C. thali
 - D. sapadu
82. **cotton is used to make:**
- A. clothes
 - B. cloth
 - C. both of these
 - D. none of these
83. **Which is an example of Cash crops**
- A. Wheat
 - B. Jute
 - C. Millet
 - D. Rice
84. **Life stocks are brought up on farms for** ____
- A. Domastic purpose
 - B. Eating purpose
 - C. Commercial purpose
 - D. none of above
85. **Spices are grown in Karnataka.**
- A. True
 - B. False
 - C. May be
 - D. none of above
86. **Cotton is grown in** ____
- A. Bihar
 - B. Karnataka
 - C. Maharashtra
 - D. none of above
87. **The crops grown for sale are** ____
- A. Cash Crops
 - B. Food Crops
 - C. Life Crops
 - D. none of above
88. **Identify the correct statement**
- A. Madhya Pradesh and Gujarat are the leading producer of cotton in India as they have Red Soil which is good for growth of cotton crops.
 - B. Gujarat and Maharashtra are leading producer of cotton in India as they have Black Soil which is good for growth of cotton crops.
 - C. Gujarat and Kerala are the leading producer of cotton in India as they have Litterite Soil which is good for growth of cotton crops.
 - D. none of above

89. **Is cotton a Rabi crop?**
- A. Yes
 - B. No
 - C. May be
 - D. none of above
90. **Delicacy of India**
- A. Apple
 - B. Banana
 - C. Mango
 - D. none of above
91. **Pulses are rich in ____**
- A. carbohydrates
 - B. vitamins
 - C. proteins
 - D. none of above
92. **People who work in banks, post offices, telephone offices, restaurants and hospitals provide us with ____**
- A. Food
 - B. Livelihood
 - C. service
 - D. goods
93. **Which crop is called the 'GOLDEN FIBRE'?**
- A. Jute
 - B. Coffee
 - C. Cotton
 - D. Rubber
94. **From where rubber is produced?**
- A. Leaves
 - B. Roots
 - C. Trunks
 - D. fruits
95. **Wheat and barley are examples of ____ .**
- A. Kharif
 - B. Rabi
 - C. Zaid
 - D. none of above
96. **Which of the following is an institutional reform under the new agriculture strategy in agriculture in India**
- A. Expansion of irrigation facilities
 - B. Ceiling on land holdings
 - C. Use of HYV seeds
 - D. Mechanised means of cultivation
97. **What are cropping seasons**
- A. Rabi
 - B. Kharif
 - C. Zaid
 - D. All the above
98. **sugarcane is grow in ____ .**
- A. Arunachal pradesh
 - B. West bengal
 - C. Rajasthan
 - D. Maharashtra
99. **Which agricultural season in India begins in June/July and ends in October/November?**
- A. Kharif
 - B. Rabi
 - C. None of these
 - D. none of above
100. **what is pesticide?**
- A. a substance sprayed on crops to keep the insects away.
 - B. to keep people away.
 - C. a natural fertilizer
 - D. a substance sprayed on crops to keep animals and insects away.

101. **Where is sugar cane grown?**
 A. Uttar Pradesh, Telangana, Kerala
 B. Uttar Pradesh, Andhra Pradesh, Tamil Nadu
 C. Punjab, Maharashtra, Madhya Pradesh
 D. Uttar Pradesh, Gujarat, Bihar
102. **Millets are grown in soil of ____ quality.**
 A. Good
 B. Bad
 C. Poor
 D. none of above
103. **How many types of farming**
 A. 1
 B. 2
 C. 5
 D. 3
104. **this country is the 2nd largest producer of rice**
 A. china
 B. japan
 C. india
 D. morocco
105. **How many types of crops found in India?**
 A. 3
 B. 2
 C. 4
 D. 5
106. **Which type of crop is sown in summers and harvested in winters?**
 A. Rabi Crops
 B. Kharif Crops
 C. Both the above
 D. None of the above

1.4 Introduction to agriculture

1. **The other Global Navigational Satellite that exists today is called as..**
 A. Beidou
 B. Quasi-Zenith
 C. GLONASS
 D. IRNSS
2. **Yang manakah merupakan ciri-ciri baja bukan organikI. Proses rembesan yang cepatII. Diproses secara kimiaIII. Tidak boleh terkena secara terus pada akar pokokIV. Melalui proses penguraian**
 A. I dan II
 B. I dan IV
 C. I, II dan III
 D. I, II, III dan IV
3. **CHOOSE the option which BEST describes non-conventional farming systems:**
 A. System that utilises natural ways of growing crops
 B. An agricultural practice that incorporates the use of natural methods namely organic farming, hydroponics, and grow boxes to produce healthy crops for consumption and the environment.
 C. A system of farming that utilizes inorganic chemicals such as pesticides to spray crops
 D. All of the above
4. **Makanan ruji rakyat Malaysia adalah**
 A. Jagung
 B. Beras
 C. Kentang
 D. Bijirin

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5. **The form of animal husbandry which raises domesticated birds such as chickens, ducks, turkeys and geese to produce meat or eggs for food.**
- A. Livestock Farming
 - B. Aqua-Farming
 - C. Swine Raising
 - D. Poultry Farming
6. **Choose the option that best describes food security**
- A. A nation should be able to feed itself first and foremost
 - B. Encouragement of local production and supplementing with importation
 - C. Access to sufficient, safe and nutritious food
 - D. All of the above
7. **Based on Chapter 1, you have learned about:**
- A. farm-planning using map-based VRA
 - B. interpolation methods in GIS
 - C. methods to create variability map
 - D. various technology used in Precision Agriculture
8. **Do you think agriculture is important in your community?**
- A. Yes
 - B. No
 - C. Not sure
 - D. Absolutely not
9. **Natural or artificial substance containing the chemical elements that improve growth and productiveness of plants.**
- A. Land
 - B. Labor
 - C. Fertilizer
 - D. Machinery
10. **A loam soil structure allows for seeds that are planted in it to grow and flourish. the plants roots has adequate space that allows for the passage of ____ in the soil. The soil is described as having good ____**
- A. earthwormswater
 - B. microorganismair
 - C. waterwater holding capacity
 - D. water retentionpore space
11. **Agricultural drones help farmers to..**
- A. predict weather condition in the farm
 - B. monitor livestock and crops
 - C. offer job opportunities
 - D. increase individual profit
12. **The following are the examples of proximal sensing, EXCEPT:**
- A. SPADmeter
 - B. Water level sensor
 - C. pH meter
 - D. aerial imagery
13. **It involves knowledge of farm machines or equipment and their proper uses.**
- A. Agriculture
 - B. Animal Science
 - C. Agricultural Engineering
 - D. Agricultural Science
14. **The signal from the satellite can cross over the following, EXCEPT:**
- A. building
 - B. cloud
 - C. football field
 - D. dessert
15. **A branch of agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants.**
- A. Agronomy

- B. Pomology
C. Landscaping
D. Horticulture
16. **Tanah yang tinggi dengan CEC (Cation Exchange Capacity)**
A. Tanah liat
B. Pasir
C. Debu
D. Tanah lom
17. **Geographical Information System can do the following, EXCEPT:**
A. create raster and vector layer
B. predict interpolated points
C. create variability map
D. provide attribute information
18. **Yang manakah berikut merupakan faktor iklim dalam menentukan pertumbuhan pokokl. Cahaya matahari. Air. Suhu. IV. Pengudaraan**
A. I dan II
B. I dan IV
C. I, II dan III
D. I, II, III dan IV
19. **Which does not belong to the group?**
A. Labor
B. Agricultural land
C. Fiber
D. Fertilizer
20. **An applied social science that deals with how producers, consumers, and societies use scarce resources in the production, marketing, and consumption of food and fiber products.**
A. Agriculture
B. Aquaculture
C. Animal Science
D. Agricultural Economics
21. **Tanah yang mampu memegang air dengan banyak adalah**
A. Debu
B. Pasir
C. Tanah liat
D. Tanah lom
22. **The breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments.**
A. Aquaculture
B. Agronomy
C. Horticulture
D. Animal science
23. **The following process involved in Precision Agriculture cycle, EXCEPT:**
A. application
B. management
C. data collection
D. interpretation
24. **Have you every done agriculture as a subject before?**
A. No
B. Yes
C. Cannot recall
D. none of above
25. **Precision Agriculture involves..**
A. technology and weather conditions
B. information and decision-making
C. information and technology
D. production and analysis

26. **Automatic Steering System..**
- A. can be used from sowing to harvesting process in the farm
 - B. helps farmers to guide implement on track
 - C. increase work efficiency throughout the field
 - D. able to recognize weeds and crops in the farm
27. **Berikut merupakan produk komuniti pertanian di Malaysia kecuali**
- A. Koko
 - B. Kelapa sawit
 - C. Buluh
 - D. Getah
28. **The following are the sensor involved in yield monitoring process, EXCEPT:**
- A. yield monitor
 - B. moisture sensor
 - C. GPS
 - D. mass flow sensor
29. **An agricultural product which is used for paper production and construction.**
- A. Fiber
 - B. Lumber
 - C. Food
 - D. Biofuel
30. **A farming without using modern ways of producing food, no use of Genetically Engineered foods, pesticides, and all elements which may cause harm to human, animals and the environment.**
- A. Intensive Agriculture
 - B. Modern Agriculture
 - C. Sustainable Agriculture
 - D. Traditional Agriculture
31. **Aquaculture pertains to farming of freshwater and saltwater organisms. Which of the following organisms can be found in freshwater?**
- A. Yellow fin
 - B. Lobster
 - C. Clam
 - D. Mud fish
32. **Tanah yang mempunyai "porosity" yang besar adalah**
- A. Pasir
 - B. Tanah liat
 - C. Debu
 - D. Tanah lom
33. **it means land management.**
- A. Agriculture
 - B. Horticulture
 - C. Agronomy
 - D. Landscaping
34. **A type of agriculture, both of crop plants and of animals, with higher levels of input and output per cubic unit of agricultural land area.**
- A. Pastoralism
 - B. Intensive Farming
 - C. Subsistence Farming
 - D. Shifting Cultivation
35. **Two processes involved in Remote Sensing are:**
- A. Analysis and Research
 - B. Detection and Analysis
 - C. Analysis and Operation
 - D. Decision-making and Operation
36. **What are the types of weathering that the soil undergo?**
- A. Physical, chemical and traditional

- B. Chemical, physical and hydration
C. Biological, parent material, chemical
D. Biological, physical and chemical
37. **Global Positioning System helps farmers in the following task, EXCEPT:**
A. yield mapping
B. soil sampling
C. crop harvesting
D. accurate planting
38. **Paper, medicine, food and natural fibers are example of ____**
A. Agricultural activities
B. Agricultural products
C. Agricultural resources
D. Agribusiness
39. **As an agriculture science student, explain to a group of farmers THREE ways in which global warming is likely to affect their crops and animal production.**
A. disrupt food availability
B. increase in temperatures and extreme weather conditions
C. changes in rainfall patterns
D. All of the above
40. **Yang manakah berikut merupakan haiwan livestock I. kambing II. lembu III. kerbau IV. burung unta**
A. I dan II
B. I, II dan III
C. I dan IV
D. I, II, III dan IV
41. **The soil is made of FOUR major components, which sequence BEST represents this**
A. Water, dirt, minerals, and air
B. Organic matter, air, fossils and primary minerals
C. Organic matter, Inorganic matter, water, air
D. All of the above
42. **What is the term used when plant of the same kind are grown and cultivated at one place on a large scale?**
A. farming
B. vegetable farming
C. crop
D. plant
43. **The following statements are importance of plants EXCEPT?**
A. The source of foreign exchange
B. Helps cool the environment
C. Source of oxygen
D. Source of raw materials for the industry
44. **The following are divisions of horticulture, EXCEPT ____ ?**
A. Aquaculture
B. Olericulture
C. Floriculture
D. Landscape horticulture
45. **what is cultivation of vegetable and ornamental plants called?**
A. horticulture
B. pisciculture
C. sericulture
D. viticulture
46. **Global Positioning System is..**
A. use for weather observation on Earth
B. able to detect changes in 12 hours time
C. a regional navigational satellite system
D. a series of satellites placed in orbit around the Earth

47. **it means garden culture.**
- A. Agriculture
 - B. Horticulture
 - C. Agronomy
 - D. Landscaping
48. **The term used to describe the process where a country buys food from another country**
- A. Import
 - B. Export
 - C. Deport
 - D. Transport
49. **The ultimate aim of agricultural development is to increase —**
- A. Farming
 - B. Plantation agriculture
 - C. Food security
 - D. None of the above
50. **The following are technology used in Precision Agriculture, EXCEPT:**
- A. Remote Sensing
 - B. Film camera
 - C. Combine harvester
 - D. ArcGIS
51. **The system which helps to prevent implement from overlapping the sprayed field is known as..**
- A. Automatic Control System
 - B. Autoswath Control System
 - C. Spraying Control System
 - D. Overlapping Control System
52. **Tanah yang mempunyai bahan organik yang tinggi berwarna**
- A. Hitam
 - B. Merah
 - C. Jingga
 - D. Kuning
53. **A type of agriculture in which plots of land are cultivated temporarily, then abandoned while post-disturbance fallow vegetation is allowed to freely grow while the cultivator moves on to another plot.**
- A. Pastoralism
 - B. Shifting Cultivation
 - C. Organic Farming
 - D. Intensive Farming
54. **The soil that we know now was formed by**
- A. Rocks
 - B. Weathered rock fragments with organic matter, water and air
 - C. Inorganic materials from rocks
 - D. None of the above
55. **The following are the examples of the inputs needed by the farm, EXCEPT:**
- A. water, seed, and pesticide
 - B. water, herbicide, and pesticide
 - C. seed, fertilizer, and lime
 - D. lime, insecticide, and compost
56. **agriculture is defined as —**
- A. art and science of cultivating the soil and rising crop and livestock
 - B. science of cultivating
 - C. art of cultivating the soil and rising crop
 - D. science of cultivating livestock
57. **"A tree root was found wrapped around a large mass of rock splitting it into smaller pieces" the scenario BEST describes which aspect of weathering?**
- A. Chemical
 - B. Physical

- C. Abrasion
D. Biological
58. **The type of soil formed is determined by — horizon.**
A. c horizon (subsoil)
B. R horizon (regolith/bedrock)
C. A horizon (topsoil)
D. O horizon (humus)
59. **Berikut merupakan haiwan yang terlibat dalam industri poultry KECUALI**
A. Kambing
B. Itik
C. Ayam
D. Burung puyuh
60. **A technical term in agriculture which means useful plants.**
A. Weeds
B. Herb
C. Crop
D. Shrub
61. **These are fertilizers derived from animal matter, animal excreta, human excreta, and vegetable matter.**
A. Complete Fertilizer
B. Commercial Fertilizer
C. Organic Fertilizer
D. Chemical Fertilizer
62. **Apakah yang dimaksudkan dengan autotrof**
A. Organisma yang tidak mampu membuat makanan sendiri
B. Organisma yang mengambil makanan daripada sumber luar
C. Organisma yang membuat makanan sendiri melalui proses fotosintesis
D. Organisma yang hidup tanpa perlu makanan
63. **All the following are examples of the role and importance of agriculture except:**
A. Foreign exchange
B. Food security
C. Marginalization
D. Employment
64. **These are some problems that are associated with agriculture Except**
A. Land tenure, Marketing, technical knowledge
B. Rural infrastructure, credit, praedial larceny
C. Climate, topography, trade
D. Subsidies, biotechnology, genetic engineering
65. **Hunters and gatherers, Nomadic herdsmen and the Domestication of plants and animals are stages in the history of agriculture.**
A. False
B. True
C. Not sure
D. none of above
66. **Yang manakah antara berikut merupakan peranan sektor pertanian terhadap negaraI. Sebagai sumber bahan mentah dan makananII. Memperkukuhkan aktiviti ekonomi impot dan eksportIII. Untuk mencukupkan sumber bekalan makanan negaraIV. Menyediakan peluang pekerjaan**
A. I dan II
B. I dan IV
C. I, II dan III
D. I, II, III dan IV

67. **Yang manakah berikut merupakan agensi kerajaan yang membantu pekebun kecil di kawasan luar bandari. FELCRAii. FELDAiii. MARAiv. RISDA**
- i dan ii
 - i dan iii
 - i, ii dan iii
 - i, ii dan iv
68. **The term used to describe the process where a country sends food it produced to another country**
- Import
 - Export
 - Deport
 - Transport
69. **types of farming meet farmer's family is known as**
- subsistence farming
 - commercial farming
 - mixed farming
 - intensive farming
70. **This pertains to art and science of systematic production of useful plants and animals.**
- Agri-fishery
 - Horticulture
 - Agronomy
 - Agriculture
71. **Untuk menjalankan fotosintesis, pokok memerlukan gas**
- Oksigen
 - Nitrogen
 - Karbon Dioksida
 - Karbon Monoksida
72. **Agriculture is only the growing of plants**
- True
 - False
 - Not sure
 - none of above
73. **Which of the following is NOT a proximal sensing?**
- pH meter
 - aerial photo
 - SPADmeter
 - water level sensor
74. **The ___ is the topmost layer of the soil. It is dark brown coloured soil which mainly consists of organic matter, decomposed material and many living organisms including some microbes, earthworms and other worms**
- R horizon (regolith/bedrock)
 - C horizon (subsoil)
 - A horizon (topsoil)
 - b horizon (subsoil)
75. **The Caribbean Development bank (CDB), CARICOM, Caribbean Agricultural Research and Development Institute (CARDI) are all examples of**
- International Agencies in Agricultural development
 - Financial institutions involved in agriculture
 - Regional institutions involved in Agriculture development
 - None if the above
76. **Three criterias required to implement Precision Agriculture, EXCEPT:**
- Ability to determine spatial and temporal variability of soil condition
 - Ability to gather information after harvesting

- C. Ability to identify and quantify such variability
- D. Ability to reallocate inputs and adjust management
77. **Commonly defined as domesticated animals raised in an agricultural setting to produce labor and commodities such as meat, milk, fur, leather, and wool.**
- A. Swine Farming
- B. Poultry Farming
- C. Livestock Farming
- D. Aqua-Farming
78. **Yang manakah benar mengenai komposisi bahan dalam tanah. Udara - 25%II. Air - 25%III. Bahan organik - 5%IV. Mineral - 45%**
- A. I dan II
- B. I dan IV
- C. I, II dan III
- D. I, II, III dan IV

1.5 Agronomy

- Name the condition in which stalks or stems break or fall over above the soil surface because of weak stalks, weak roots, damage, or weather events.**
 - germination
 - lodging
 - maturation
 - emergence
- What is the key benefit to banding phosphorus fertilizers?**
 - less phosphate leaching
 - a concentrated alkaline zone
 - less tie up in the soil leading to better plant availability
 - required for higher fertilizer rates
- Which of the following definitions best describes a petiole?**
 - the surface of the leaf
 - the small stem attached to the leaf
 - the vein structure in the leaf
 - the edge of the leaf
- A wheat farmer is budgeting expenses for his coming growing season as this time he projects his total expenses to be \$412.80 per acre. His average wheat yield is 80 bu/ac. What is his breakeven price per bushel?**
 - \$5.16
 - \$5.29
 - \$6.49
 - \$7.74
- Which system uses a constellation of orbiting satellites to identify a location on Earth based on longitude and latitude coordinates along with altitude?**
 - Geographic Directional Coordinates (GDC)
 - Variable Rate Technology (VRT)
 - Geographic Information System (GIS)
 - National Air and Space Association (NASA)
- Compaction is the reduction of:**
 - soil CEC
 - soil weight
 - soil pore space
 - soil density
- Plant diseases occur when the following occur at the same time:**

- A. a susceptible plant, a virulent pathogen, and a favorable environment
 B. a susceptible plant, a virulent pathogen and insect pests
 C. a virulent pathogen, an environment favorable for disease and insect pests
 D. a susceptible plant, insect pests, and freezing temperatures
8. **What is a horizontal layer of soil, created by soil forming processes, that differ in physical or chemical properties from adjacent layers called?**
 A. hardpan
 B. soil horizon
 C. fragipan
 D. tillage pan
9. **Soil samples for distinctly different areas of the field should be (i.e. different soil types or hill tops vs. bottom lands):**
 A. analyzed separately
 B. mixed together to represent a single production unit
 C. ignored as being meaningless
 D. mixed together for large fields and kept separate for small fields
10. **When do broadcast applications of dry fertilizer become plant available?**
 A. when crop residues are decomposed
 B. after irrigation or rainfall dissolves the fertilizer and moves into the root zone
 C. when is tilled 6 to 8 inches into the soil with a tillage tool
 D. when soil temperatures rise above 70 degrees Fahrenheit
11. **What is the conversion of ammonium to nitrate known as?**
 A. ammonification
 B. denitrification
 C. mineralization
 D. nitrification
12. **Growing two or more crops together in the same field at the same time is known as?**
 A. intercropping
 B. strip till
 C. continuous cropping
 D. double crop
13. **At which stage of growth should plant tissue samples should be taken?**
 A. sufficiently in advance of fertilization to allow time for analysis and return of results from the lab
 B. any time before bloom
 C. early season shortly after emergence
 D. the stage that corresponds to those used to develop interpretive guidelines
14. **How does soil texture influence the development of soil compaction?**
 A. Clay soils are more likely to suffer compaction than are sandy soils.
 B. Sandy soils are quite subject to compaction when dry.
 C. It is basically impossible to compact a silt loam.
 D. The amount of water present is far more important than its textural class.
15. **___ is adsorbed as a cation and is part of the chlorophyll molecule.**
 A. Na⁺
 B. H⁺
 C. Ca²⁺
 D. Mg²⁺

16. **A sodic soil is characterized by having a disproportionally high concentration of what exchangeable cation in the Cation Exchange Capacity (CEC) complex?**
- A. calcium
 - B. chloride
 - C. magnesium
 - D. sodium
17. **___ is an eroded material deposited by running water including gravel, sand, silt, and clay.**
- A. Bedrock
 - B. Glacial till
 - C. A loess deposit
 - D. An alluvial deposit
18. **UAN fertilizer at 28% nitrogen costs \$226.50 per ton. The liquid fertilizer weighs 10.67 pounds per gallon. What is the per pound cost for the nitrogen?**
- A. \$0.37/pound
 - B. \$0.40/pound
 - C. \$0.55/pound
 - D. \$0.63/pound
19. **of soil compaction severity occurs with the ___ tire pass although the depth of the compaction is determined by the ___ axle load.**
- A. first, lightest
 - B. first, heaviest
 - C. last, lightest
 - D. last, heaviest
20. **What causes clay soils to often drain slower than loam soils following heavy rain or irrigation?**
- A. clay soils have more sodium
 - B. clay soils have smaller diameter pores
 - C. loam soils have less total pore space
 - D. clay soils often have less organic matter
21. **Select the condition that could help reduce pesticide volatilization.**
- A. high air temperatures
 - B. low relative humidity
 - C. incorporation
 - D. small droplets
22. **What does IPM stand for?**
- A. Intensive Pesticide Management
 - B. Intensive Personnel Management
 - C. Integrated Pest Management
 - D. Intensive Pest Manipulation
23. **What is the growth of a plant toward any stimulus is called?**
- A. tropism
 - B. hormones
 - C. receptors
 - D. vernalization
24. **The point at which soil holds moisture so tightly that plants cannot extract it is called?**
- A. the permanent wilting point
 - B. the drought point
 - C. field capacity
 - D. the transient wilting point
25. **What is the starting salary for an agronomist?**
- A. \$50, 391
 - B. \$40, 578
 - C. \$100, 000
 - D. \$89, 992
26. **Which type of insecticide moves throughout the plant?**
- A. photosynthetic

- B. systemic
C. contact
D. juvenile
27. **Traci is making plans to seed her field to winter six-row malting barley on her farm in Maryland. The field is capable of producing 135 bu/acre under irrigation. The field has a center pivot irrigation system with eight 156 ft spans and an end gun that effectively reaches 50 ft. Traci will plant in concentric circles under the pivot and leave the dry corners fallow. She is targeting 1.25 million plants per acre, the seed she had purchased has 13,500 seeds per pound and 92% germination. Barely weighs 48 pounds per bushel. Total nitrogen for the crop will be 1.2 pounds of nitrogen per bushel of grain. She plans on applying 30 pounds of nitrogen broadcast preplant and the remainder in two spring (top-dress) applications. Soil tests were used to make fertilizer recommendations, the recommendations call for 83.7 pounds of P₂O₅ and 47.3 lbs/ac K₂O to be broadcast preplant. What is the area of Traci's field?**
A. 19 acres
B. 112.3 acres
C. 121.4 acres
D. 485.8 acres
28. **What are national regulatory agencies regulating manure applications most concerned about?**
A. excessive phosphorus
B. phosphorus deficiency
C. excessive potassium
D. potassium deficiency
29. **Approach Prima Fungicide is used at the rate of 6.8 fl oz/ac on soybean for the control of Frog Eye and Brown Spot. How many acres will a 2.5-gal jug treat?**
A. 5.9 acres
B. 11.8 acres
C. 23.6 acres
D. 47.1 acres
30. **What do the 4R's of fertilizer application refer to?**
A. The Right price, Right brand, Right rate, Right place
B. The Right source, Right rate, Right price, Right form
C. The Right source, Right rate, Right time, Right place
D. The Right price, Right rate, Right form, Right analysis
31. **A fertilizer spreader has an effective application width of 37.5 feet. If 21.6 pounds of fertilizer is collected from the spreader in 60 seconds. When traveling 6.8 mph, what is the rate of fertilizer that is being applied per acre with this spreader?**
A. 3.2
B. 11.1
C. 41.9
D. 54.5
32. **Spray drift is the least when which of the following conditions exist?**
A. droplet size increases, wind speed increases
B. droplet size decreases, wind speed decreases
C. droplet size decreases, wind speed increases
D. droplet size increases, wind speed decreases
33. **Traci is making plans to seed her field to winter six-row malting barley on her farm in Maryland. The field is capable of producing 135 bu/acre under irrigation. The field has a center pivot irrigation system**

- with eight 156 ft spans and an end gun that effectively reaches 50 ft. Traci will plant in concentric circles under the pivot and leave the dry corners fallow. She is targeting 1.25 million plants per acre, the seed she had purchased has 13,500 seeds per pound and 92% germination. Barely weighs 48 pounds per bushel. Total nitrogen for the crop will be 1.2 pounds of nitrogen per bushel of grain. She plans on applying 30 pounds of nitrogen broadcast preplant and the remainder in two spring (top-dress) applications. Soil tests were used to make fertilizer recommendations, the recommendations call for 83.7 pounds of P2O5 and 47.3 lbs/ac K2O to be broadcast preplant. If Traci uses UAN 28-0-0 for her spring nitrogen applications, how many total gallons of UAN per acre will she need for her split spring top-dress applications? (1 gal UAN weighs 10.67 pounds)
- A. 10.0 gallons/ac
 - B. 17.2 gallons/ac
 - C. 23.8 gallons/ac
 - D. 44.2 gallons/ac
34. **A weed is described as?**
- A. a plant that is not valued where it is growing
 - B. a fast-growing plant
 - C. a plant that lives for more than one year
 - D. a plant growing from a seed
35. **Which of these is an example of biological aphid control?**
- A. using an insect growth regulator
 - B. introduction and protection of natural predators
 - C. destroying all-natural predators
 - D. setting and maintaining traps
36. **Epinasty in plants is described as:**
- A. the twisting and bending of plant leaves and stems due to an auxin
 - B. the discoloration of leaves caused by a toxin
 - C. interveinal yellowing of leaves caused by a nutrient deficiency
 - D. spotting of leaves from a contact herbicide
37. **What is one job available?**
- A. CAD Drafter
 - B. Planter
 - C. Construction Worker
 - D. Chef
38. **Nutrient leaching is most likely to occur in what soil type?**
- A. silty clay soil
 - B. clay soil
 - C. compacted soil
 - D. sandy soil
39. **A ___ plant has a fibrous root system and parallel venation.**
- A. annual
 - B. biennial
 - C. dicot
 - D. monocot
40. **After an herbicide drifts onto a plant, only small spots on the plant leaves and stem are dead. The herbicide that drifted was most likely what type of herbicide?**
- A. contact
 - B. systemic
 - C. adsorptive
 - D. generic

41. **In small grain production, jointing refers to which of the following?**
- A. tiller production
 - B. the head is in the boot
 - C. the first node is visible above the soil surface
 - D. the flag leaf has emerged
42. **pH is the measurement of the concentration of what ion in the soil?**
- A. hydroxide
 - B. hydrogen
 - C. phosphorus
 - D. helium
43. **What is the name of the group of nitrogen-fixing bacteria in legume nodules?**
- A. nitrosomonas bacteria
 - B. nonsymbiotic bacteria
 - C. rhizome bacteria
 - D. rhizobium bacteria
44. **Visual symptoms of zinc deficiency usually appear as:**
- A. chlorosis
 - B. twisted stems
 - C. pale foliage on older leaves first
 - D. stem pitting
45. **Current university research shows a soybean yield response to the application of 20 pounds of sulfur preplant. How much 21-0-0-24 per acre do you need to spread?**
- A. 4.2 pounds/ac
 - B. 4.8 pounds/ac
 - C. 83.3 pounds/ac
 - D. 93.3 pounds/ac
46. **What is the pigment associated with sugar metabolism, when it accumulates in the plant, it gives the plant a reddish/purple color?**
- A. chlorophyll
 - B. carotenoid
 - C. anthocyanin
 - D. xanthophyll
47. **When thinking of crop nutrient fertilization, what does agronomic rate of application mean?**
- A. applying a balanced amount of nutrients
 - B. matching fertilizer inputs with crop requirements under given soil conditions
 - C. applying both a broadcast and starter fertilizer along with a side-dress treatment
 - D. applying only a broadcast and starter fertilizer
48. **What soil contains significant amounts of naturally occurring calcium carbonate? These soils are characterized by a high soil pH and fizz when a dilute acid is applied.**
- A. calcareous soil
 - B. mineral soil
 - C. volcanic soil
 - D. organic soil
49. **What type of flowering plant takes 12-24 months to complete its life cycle? It grows vegetative the first year and then reproduces the second year.**
- A. annual plant
 - B. biennial plant
 - C. triennial plant
 - D. perennial plant

1.6 Soil Science

ANSWERS KEYS AVAILABLE ON Google Play Books

1. **Where do the minerals (inorganic materials) that form soil come from?**
 - A. Plant and Trees
 - B. Weathering and Erosion of rocks
 - C. Climate and Air
 - D. Sunlight, Plants and Dirt
2. **Soil is a loose mixture of:**
 - A. Organic materials.
 - B. Organic and inorganic materials.
 - C. Dead and decaying micro organisms.
 - D. none of above
3. **Soil profile refers to an arrangement within a soil of -**
 - A. Its horizontal layout
 - B. Vertical layout
 - C. Size of soil particles
 - D. none of above
4. **Which particle reduces the water holding capacity of soil?**
 - A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
5. **Below the C horizon is**
 - A. topsoil
 - B. rock
 - C. clay
 - D. humus
6. **In a soil profile with O, A, E and B horizons, evaluate which of the following is the least amount of clay in the horizon.**
 - A. O
 - B. A
 - C. B
 - D. E
7. **Why is soil an important natural resource?**
 - A. soil is used to make buildings
 - B. soil can grow crops
 - C. soil comes from bedrock
 - D. soil is full of microbes
8. **How would you describe the texture of "sandy" soil?**
 - A. sticky
 - B. gritty
 - C. smooth
 - D. slimy
9. **Which of the following is NOT an organic material**
 - A. Worms
 - B. Decayed animals
 - C. Rocks
 - D. Decayed plants
10. **Which of the following types of soil has the largest particles?**
 - A. sand
 - B. silt
 - C. humus
 - D. clay
11. **It is a dynamic natural body that composed of minerals and organic materials in which plant grow. This is called ____**
 - A. Land
 - B. Soil
 - C. Minerals
 - D. Nutrients
12. **Adding lime improves soil structure because clay particles ____, which makes them easier to cultivate and for roots to grow in.**
 - A. flatulate
 - B. flubulate

- C. flocculate
D. fartulate
13. **Bedrock is made of**
A. humus, living things, and decaying plants
B. large rocks
C. sand particles and clay
D. dirt and worms
14. **Most plant roots grow in the**
A. A horizon
B. B horizon
C. C horizon
D. D horizon
15. **Soil is made up of:**
A. Sand
B. Silt
C. Clay
D. All of these
16. **Which of the following organisms is considered beneficial to plants?**
A. thrips
B. moths
C. spiders
D. spittlebugs
17. **Which soil hold too much water and does not allow air in it?**
A. Sand
B. Loam
C. Clay
D. none of above
18. **Organic matter is made of materials that** —
A. Were once living
B. Were once nonliving
C. Were once living and nonliving
D. none of above
19. **Cross-sectional view of soil**
A. Profile
B. Horizon
C. Master Horizons
D. Leached
20. **Which is the top layer of soil?**
A. Loam
B. Bedrock
C. Humus
D. Parent Material
21. **Which of the following affects the weathering rate?**
A. climate
B. type of rock
C. both A & B
D. Neither A nor B
22. **Determine the moisture content of the soil. Given the mass of the wet soil = 450 g, the mass of dry soil = 353 g.**
A. 78 %
B. 22 %
C. 27 %
D. 12%
23. **Which of the following is not a type of soil?**
A. minerals
B. clay
C. topsoil
D. sand
24. **What does soil consist of?**
A. Animal Remains
B. Dead Plants
C. Fungi
D. All of the above

25. **Which soil has the smallest particles?**
- A. clay
 - B. loam
 - C. sand
 - D. silt
26. **What material is found on the surface of the earth consisting of a mixture of rock, sand, clay, dead plants, and animal remains?**
- A. Humus
 - B. Soil
 - C. Rocks
 - D. none of above
27. **Sandy soil have a high water holding capacity, more micro-pores and very difficult to till.**
- A. True
 - B. Probably true
 - C. False
 - D. Probably false
28. **Which type of soil is best for growing plants?**
- A. sand
 - B. clay soil
 - C. garden soil
 - D. none of above
29. **There are four major components of soil. Evaluate which of the following components comprises least amount of material incorporated into the soil?**
- A. Mineral matter
 - B. Soil Air
 - C. Soil water
 - D. Organic matter
30. **Which particle is the most porous and allows for the most water to travel between them?**
- A. silt
 - B. sand
 - C. clay
 - D. loam
31. **Which of the following is a term for heterosis?**
- A. homozygous
 - B. hybrid vigor
 - C. heterosis
 - D. heredity
32. **If you want to make your soil better for plant growth what can you do to fix the soil?**
- A. Add clay
 - B. Add subsoil
 - C. Add nutrients
 - D. Take away air
33. **What does sustainability mean?**
- A. Using lots of resources.
 - B. Maintaining the world we live in for future generations.
 - C. Cutting down trees.
 - D. Using lots of water and electricity.
34. **In soil there is ____ of air**
- A. 45%
 - B. 25%
 - C. 5%
 - D. none of above
35. **What are the 2 MAIN groups of plants?**
- A. seed plants and seedless plants
 - B. gymnosperms and angiosperms
 - C. horsetails and ferns
 - D. vascular and nonvascular

36. **Soil texture is determined by ____**
A. its composition
B. the percent of each grain size
C. its origins
D. their porosity & permeability
37. **Which of the following shows that soil erosion is happening?**
A. The soil is deep and grows grass on top.
B. Pavement is placed on the soil for a road.
C. A forest of pine trees grows in the soil.
D. The soil has deep gullies.
38. **In alternate leaf patterns, how many leaves are produced at each node?**
A. two
B. three
C. zero
D. one
39. **What conservation method refers to growing crops perpendicular to the slope of a hill?**
A. windbreaks
B. contour plowing
C. terrace farming
D. strip cropping
40. **Which one is NOT a description of poorly drained soils.**
A. are slow to warm up in spring
B. are easy to cultivate
C. encourage weeds to grow
D. are easily damaged by machinery and stock hooves.
41. **Which type of soil has a reddish brown color?**
A. sand
B. loam
C. clay
D. none of above
42. **Which type of soil is used to make toys and pots**
A. clayey soil
B. loamy soil
C. silty soil
D. sandy soil
43. **This is the largest soil particle**
A. Clay
B. Silt
C. Sand
D. Loam
44. **Which soil has high nutrient content?**
A. clayey soil
B. sandy soil
C. silty soil
D. loamy soil
45. **which one of these soil holds water**
A. organic
B. sand
C. clay
D. none of above
46. **Soil is ____**
A. Dirt
B. Where plants grow
C. Weathered rock fragments
D. none of above
47. **What is weathering?**
A. Layer of soil
B. An example of a mineral
C. The breaking down of larger rocks
D. none of above

48. **About 2% of American homes use geothermal heat pumps. What percent of Swedish homes use this technology?**
- A. 10%
 - B. 20%
 - C. 30%
 - D. 40%
49. **The two main factors that determine the rate of weathering are the TYPE of rock and ____**
- A. Music
 - B. Climate
 - C. Size of rock
 - D. Weight of rock
50. **Washing out a plastic ziploc bag and using it again is known as-**
- A. recycling plastic
 - B. reusing an object
 - C. reducing the amount of water used
 - D. recycling glass
51. **What is true about silt?**
- A. silt has larger particles than sand and is sticky
 - B. silt has smaller particles and holds water better than sand
 - C. silt is made from humus and loam
 - D. plants grow well in silt because it holds nutrients
52. **Soils form in layers, or ____**
- A. top soils
 - B. mixtures
 - C. horizons
 - D. levels
53. **What physical property of soil determines if it retains water?**
- A. color
 - B. particle size
 - C. texture
 - D. weight
54. **What is the best soil to grow plants in?**
- A. sand
 - B. silt
 - C. loam
 - D. clay
55. **Which soil can't hold water holding water for a long period of time?**
- A. silt
 - B. clay
 - C. sand
 - D. humus
56. **In Nebraska, what primary crop is used for making brooms?**
- A. proso millet
 - B. hay
 - C. wheat
 - D. cotton
57. **Which of the following is not a primary nutrient required for plant growth?**
- A. Calcium
 - B. Phosphorus
 - C. Potassium
 - D. Nitrogen
58. **Water present in soil comes from ____**
- A. rainfall or irrigation.
 - B. air
 - C. drains
 - D. watering plants

59. **According to our lab on soil and water absorption, which soil held the most amount of water?**
- A. Clay
 - B. Potting Soil
 - C. Gravel
 - D. Sand
60. **This type of soil is grainy, light brown, and would be the size of a basketball in comparison to other soils.**
- A. sand
 - B. clay
 - C. humus
 - D. loam
61. **The name below that NOT including rocks is ____**
- A. Granite
 - B. Marble
 - C. Baloon
 - D. Limestone
62. **Students poured 200 mL of water through a soil sample. They collected and measured the water that drained out of the soil. The water collected measure 110 mL. How much water did the soil retain?**
- A. 90 mL
 - B. 310 mL
 - C. 110 mL
 - D. 200 mL
63. **what do we call dirt**
- A. air
 - B. soil
 - C. water
 - D. ice
64. **In which phase does the cell replicate its DNA?**
- A. M phase
 - B. Gap 1 phase
 - C. synthesis phase
 - D. Gap 2
65. **A soil with bulk density of 1.30g/cm³ and a particle density of 2.60g/cm³ will have a porosity of ____**
- A. 5%
 - B. 25%
 - C. 50%
 - D. 75%
66. **Which name starts with a lower case letter?**
- A. Common Name
 - B. Genus
 - C. Species
 - D. none of above
67. **Subsoil layer is made of ____**
- A. sand and clay
 - B. silt and sand
 - C. gravels and stones
 - D. large rocks
68. **What are the three types of soil particles?**
- A. insects, sand, topsoil
 - B. clay, sand, silt
 - C. topsoil, subsoil, bedrock
 - D. earthworms, sand, silt
69. **what is word fits w/ the organisms that break the remains of dead organisms into smaller pieces and digest them with chemicals**
- A. subsoil
 - B. humus
 - C. loam
 - D. decomposers

70. **What is the main thing you need to stop or minimise to make your house energy efficient?**
- A. Heat gain and heat loss
 - B. Water gain and water loss
 - C. Use of appliances
 - D. Heat from the sun
71. **where do plants get light from?**
- A. sun
 - B. sea
 - C. star
 - D. school
72. **definition of "soil horizon"**
- A. a layer of soil that differs in color and texture from the layers above or below it
 - B. a dark-colored substance that forms as plant and animal remains decay
 - C. a crumbly, dark brown soil that is a mixture of humus, clay, other minerals
 - D. the solid layer of rock beneath the soil
73. **Which soil can be compacted to higher density?**
- A. Poorly graded sand
 - B. Well graded very gravelly SAND
 - C. Uniform silty soil
 - D. Clay of high plasticity
74. **Which of the following is not an example of mechanical weathering**
- A. reaction with carbonic acid
 - B. animal action
 - C. freezing and thawing
 - D. plant action
75. **Which soil is good for farming?**
- A. Clay
 - B. Silty
 - C. Peat
 - D. Sandy
76. **A student wants to find out which type of soil holds the most water. He uses four identical pots with holes in the bottom. He fills each pot with a different type of soil and waters the pots with the same amount of water. How can he find out how much water stays in the soil in each pot?**
- A. By planting seeds and measuring plant growth in each pot
 - B. By measuring the amount of water that drains from each pot
 - C. By observing which soil looks wettest after the water has been added to the pots
 - D. By feeling the soil before and after adding water to each pot.
77. **What is the layer of rock that is below the soil?**
- A. subsoil
 - B. topsoil
 - C. humus
 - D. bedrock
78. **What do we call the layers of soil?**
- A. Deposits
 - B. Horizons
 - C. Minerals
 - D. Rocks
79. **Which of these characterized as having the finest particles that holds the greater amount of water?**
- A. Clay
 - B. Loam
 - C. sand
 - D. none of above

80. **Which cell structure has a double membrane surrounding it?**
- A. golgi apparatus
 - B. cytoplasm
 - C. chloroplasts
 - D. mitochondria
81. **Very fine mineral particles of soil**
- A. Sand
 - B. Silt
 - C. Clay
 - D. Horizon
82. **What is the structure that produces protein for the cell?**
- A. golgi
 - B. mitochondria
 - C. chloroplast
 - D. ribosome
83. **Three kinds of soil are**
- A. sandy, loam, clay
 - B. gravel, humus, sand
 - C. loam, silt, humus
 - D. clay, gravel, silt
84. **How do plants help prevent erosion?**
- A. they dead leaves pile up to prevent erosion
 - B. plants attract animals that build homes to prevent erosion
 - C. they don't
 - D. plant roots help keep the soil in place to prevent erosion
85. **A soil with high in particle density is also known as more porous.**
- A. True
 - B. Probably true
 - C. False
 - D. Probably false
86. **What natural resource has minerals from weathered rocks and decomposing plant and animal remains?**
- A. fresh water
 - B. soil
 - C. animals
 - D. plants
87. **How does each soil types differ?**
- A. Texture
 - B. Color
 - C. Both texture and color
 - D. none of above
88. **What is the movement of soil from one place to another?**
- A. weathering
 - B. deposition
 - C. discharge
 - D. erosion
89. **How many farms in Massachusetts produce organic crops?**
- A. more than 300
 - B. 72
 - C. more than 1, 000
 - D. 20
90. **Cranberries are a primary crop for which state?**
- A. Nebraska
 - B. Missouri
 - C. Iowa
 - D. Wisconsin
91. **Mrs. Edwards is comparing soil for texture. Texture of a soil depends on-**
- A. the sizes of the particles in the soil and how they feel
 - B. the amount of water the soil can hold

- C. the color of the soil
D. the types of plants that will grow in that soil
92. **Sand, silt and clay are the components of soil texture and classify as ____**
A. Soil particles
B. Soil separates
C. Soil fragments
D. Soil composition
93. **Forage crops are used to achieve which of the following?**
A. decrease water drainage
B. increase weed populations
C. increase soil quality
D. maintain crop yield
94. **A type of soil structure that is cube-like and common in B horizon especially in the humid regions.**
A. Prismlike
B. Platelike
C. Spheroidal
D. Blocklike
95. **There are processes in chemical weathering, distinguish which process did this statement belongs "incorporation of water molecules into the structure of minerals".**
A. Hydrolysis
B. Hydration
C. Carbonazation
D. Oxidation
96. **What is the other half made up of?**
A. dead animals
B. rocks
C. gases and liquids
D. plasticlike material
97. **The MAIN thing Decomposers do for the soil is the following:**
A. Store moisture
B. Burrow deep in the soil
C. Make space for air and water
D. Break down and digest dead organisms
98. **Students poured 400 mL of water through a soil sample. They collected and measured the water that drained out of the soil. The water collected had a volume of 210 mL. How much water did the soil retain?**
A. 210mL
B. 190mL
C. 200mL
D. 210mL
99. **This refers to a type of water that can escape from the soil.**
A. capillary
B. hygroscopic
C. flowing
D. gravitational
100. **There are different types of soil look, smell, and feel different. Why soil have different color.**
A. we paint them
B. we add color in it
C. they come from different rocks and different places
D. none of above
101. **Where is the rough endoplasmic reticulum located?**
A. cytoplasm
B. ribosomes
C. nucleus
D. orange

102. **What percent of soil is water?**

- A. 25
- B. 45
- C. 5
- D. none of above

103. **Which soil component makes up about 5% of a loamy soil?**

- A. Water
- B. Organic Matter
- C. Air
- D. Minerals

104. **What is a solution to stop wind erosion on a farmer's field?**

- A. Plow up all of the plants
- B. Build a pond
- C. plant trees and shrubs on the edge
- D. none of above

105. **Lowering the pH makes nutrients ____ available to plants.**

- A. less
- B. equally
- C. more
- D. none of above

106. **There are two types of igneous rocks (intrusive and extrusive), assess the two types of igneous rocks.**

- A. Intrusive rocks are those rocks that reaches the earth surface, while extrusive rocks are those rocks found below the earth surface.
- B. Intrusive rocks are those rocks that found above the horizons, while extrusive rocks are those rocks found below the soil horizons.
- C. Extrusive rocks are those rocks that reach the earth surface, while intrusive

rocks are those rocks found below the earth surface.

D. Extrusive rocks are those rocks that found above the horizons, while intrusive rocks are those rocks found below the soil horizons.

107. **What is the relationship between particle size and permeability?**

- A. As particle size increases, the permeability decreases.
- B. As particle size increases, the permeability increases.
- C. As permeability decreases, the particle size decreases.
- D. As permeability increases, the particle size remains constant.

108. **If your soil sample has 35% sand, 40% silt and 25% clay, identify the soil texture using the soil texture triangle provided to you.**

- A. silt
- B. clay loam
- C. loam
- D. silt loam

109. **Which vegetable is a major food crop in Rhode Island?**

- A. potatoes
- B. corn
- C. pumpkins
- D. cabbage

110. **What is the process utilized by scientists to derive solutions to problems.**

- A. Scientific Method
- B. Questions
- C. Probability
- D. Mayofication

111. **Which land class is hardest to farm?**
A. Class 1
B. Class 2
C. Class 5
D. Class 8
112. **Plants and animals become part of soil when they**
A. Grow and Develop
B. Produce offspring
C. Grow and Decay
D. Die and Decay
113. **George Washington Carver was a professor of agriculture. He is famous for his studies of ____ ?**
A. onions
B. corn
C. soy beans
D. peanuts
114. **Soil is made up tiny pieces of rocks, air, fragments of plants, animals and ____**
A. Gas
B. Water
C. Plastic
D. none of above
115. **A soil from a field had mass of 47.80 grams and a volume of 32.50 cm³. The oven dry mass of a soil was 35.50 grams. Calculate the bulk density of a soil.**
A. 1.10g/cm³
B. 1.90g/cm³
C. 1.50g/cm³
D. 1.09g/cm³
116. **Which is the correct order of weathered rocks from smallest to largest?**
A. sand, clay, silt, gravel
B. clay, silt, sand, gravel
C. gravel, sand, silt, clay
D. clay, sand, silt, gravel
117. **Soil conservation includes all of the following EXCEPT ____**
A. Desertification
B. Contour plowing
C. vegetative cover
D. Crop rotation
118. **How do plants help soil?**
A. The roots help the soil stay in place. This helps the soil not erode as fast.
B. Plants feed the soil.
C. Plants help soil erosion happen.
D. All of the above.
119. **soil used for construction ____**
A. clay
B. loam
C. silt
D. sand
120. **This type of weathering occurs when rock is physically broken down into smaller pieces of rock.**
A. mechanical weathering
B. chemical weathering
C. erosion weathering
D. deposition
121. **What two main phases comprise the cell cycle?**
A. mitosis and cytokinesis
B. two growth phases
C. interphase and mitosis
D. interphase and cytokinesis

122. **What is the total annual value of Washington's food crop export?**
- A. \$2.2 billion
 - B. \$4.4 billion
 - C. \$5.5 billion
 - D. \$1.1 billion
123. **About how much of soils volume is made up of solid material?**
- A. all
 - B. a quarter
 - C. half
 - D. none
124. **Which of the following is a warm season crop?**
- A. oats
 - B. broccoli
 - C. potatoes
 - D. eggplant
125. **Which rocks are exposed to more wind, rain and ice?**
- A. rocks at a lower elevation
 - B. rocks at a higher elevation
 - C. rocks in streams
 - D. rocks in a warm, humid climate
126. **What must occur in order for plants to grow?**
- A. The rate of photosynthesis must be greater than the rate of respiration.
 - B. The rate of respiration must be greater than the rate of photosynthesis.
 - C. The rate of photosynthesis must be equal to the rate of respiration.
 - D. Alternating rates of photosynthesis and respiration.
127. **Which layer is the layer below soil that is made up of large rock?**
- A. Bedrock
 - B. Humus
 - C. Parent Material
 - D. Topsoil
128. **When rain falls, water passes through the soil, washing minerals, humus and nutrients from the A horizon into the B horizon. This process is called?**
- A. Leaching
 - B. Washing out
 - C. Deforestation
 - D. Transportation
129. **Soil is a mixture of weathered rock, mineral fragments, water, air and**
- A. sand
 - B. decayed organic matter
 - C. moss
 - D. clay
130. **The way soil feels is called its ____**
- A. type
 - B. texture
 - C. particle
 - D. grain size
131. **Soil is formed by the breaking down of rocks by the action of wind, water and climate. This process is called**
- A. Humification
 - B. Weathering
 - C. Soil erosion
 - D. None of the above
132. **In which layer does the roots of the plants grow?**
- A. Humus
 - B. Subsoil

- C. top soil
D. bedrock
133. **The asexual reproduction method that is commonly used by orchards on trees is ____**
A. Cuttings
B. Division
C. Tissue Culture
D. Grafting
134. **This type of soil is carried by water and left as sediment.**
A. bedrock
B. loam
C. silt
D. clay
135. **Soil is a precious resource because it**
A. is very expensive
B. takes million years to form
C. is very heavy
D. cannot be moved easily
136. **Which of the following items is a primary ingredient of humus?**
A. Dead plant material
B. Rocks from Earth's crust
C. Minerals
D. Metals
137. **In which layer of soil does the underground water gets collected?**
A. bedrock
B. parentrock
C. childrock
D. subsoil
138. **What percent of a U.S. landfill is made up of food scraps and yard clippings?**
A. 25%
B. 18%
C. 11%
D. 5%
139. **Where do plants get minerals from**
A. soil
B. rain
C. sun
D. animals
140. **Which of the following plants live and reproduce for multiple years?**
A. annual
B. perennial
C. biennial
D. fillial
141. **Vertical section through the soil showing different layers is called**
A. Types of soil
B. Soil texture
C. Soil profile
D. None of the above
142. **How are microorganisms responsible in the formation of soil?**
A. They erode the rocks
B. They get the water from the plants
C. They recycle organic matter and help in formation of humus
D. They help in the formation of humus
143. **When a farmer has to use many different pesticides to keep the same bug out of his crop we call it ____**
A. pesticide overuse syndrome
B. the chemical effect
C. pesticide syndrome
D. the treadmill effect

144. **Sand feels ____**
- A. soft
 - B. gritty
 - C. wet
 - D. none of above
145. **How is the air found in soils different from the air in the atmosphere?**
- A. Has no humid all Carbon Dioxide
 - B. Much more humid and moist and is rich in carbon dioxide but has less oxygen
 - C. Much more humid and moist and is rich in Oxygen but has less Carbon Dioxide
 - D. Has no humid all Oxygen
146. **The stalks in a flower that produce the male reproductive cells**
- A. pistil
 - B. stamen
 - C. filament
 - D. stigma
147. **Weathering is the process of physical and chemical alteration of rocks or minerals at or near the earth surface. Which of the following did crystallization of salts belong?**
- A. Chemical weathering
 - B. Physical weathering
 - C. Mechanical weathering
 - D. Cultural weathering
148. **Why are sand particles different colors?**
- A. because sand is made from silt, clay, and loam
 - B. because the shells are brightly colored and rocks are dark
 - C. because the particles come from different colored rocks
 - D. because water changes the color of sand
149. **decomposition is important because it**
- A. gets rid of dead organisms
 - B. returns nutrients to the soil
 - C. creates soil
 - D. is a part of the circle of life
150. **Which is a factor that affects soil development?**
- A. time
 - B. slope
 - C. type of rock
 - D. all of the above
151. **Which property of soil can be described with the words, "smooth," and "rough"?**
- A. Shape
 - B. Texture
 - C. Size
 - D. none of above
152. **what is a dark-colored substance that forms as plant and animal remains decay**
- A. humus
 - B. loam
 - C. soil horizon
 - D. bedrocl
153. **What is the first stage of mitosis?**
- A. prophase
 - B. telophase
 - C. anaphase
 - D. metaphase
154. **Why would you NOT find soils on Mars or Venus?**
- A. Not all materials that make up soil can be found on other planets, such as water, organic materials
 - B. You can find soil on Mars or Venus
 - C. Mars and Venus have to much air
 - D. Mars and Venus does not have enough air

155. **Organic matter is formed when ____**
- A. dead animals
 - B. rotten plants
 - C. decomposition of the remains of plant and animal remains.
 - D. plants and animals
156. **Which type of soil is best for growing plants and has the remains of decayed plants and animals?**
- A. sand
 - B. clay
 - C. gravel
 - D. humus
157. **Decaying living things in topsoil makes it?**
- A. moist
 - B. sandy
 - C. clay like
 - D. a dark color
158. **When testing the soil texture of each soil sample, what is the next step after wetting each sample?**
- A. rub the sample between your fingers
 - B. plant a flower in each sample
 - C. examine each sample with a hand lens
 - D. look at the color of each sample
159. **____ dig through the soil which loosens it so plants grow better.**
- A. Ladybugs
 - B. Earthworms
 - C. Caterpillars
 - D. Dogs
160. **In the early 1700s, a farmer named Charles Townsend experimented with ____**
- A. growing plants without water
 - B. how different rocks melt
 - C. turning rocks into soil
 - D. crop rotation
161. **Why do nonvascular plants grow close to the ground?**
- A. to get less sunlight
 - B. for protection
 - C. for space
 - D. to absorb water
162. **Which of the following best describes soil erosion?**
- A. the breakdown of soil
 - B. the improvement of soil
 - C. the addition of soil
 - D. the movement of soil by wind or water
163. **Loamy soil with a dark color is good for**
- A. farming
 - B. construction
 - C. a lake
 - D. nothing
164. **When there are not enough plants to hold topsoil in place, water and ____ carry the topsoil away, leaving the subsoil exposed**
- A. sunlight
 - B. birds
 - C. magnetic fields
 - D. wind
165. **The higher the cation exchange capacity (CEC) of a soil sample, the ____**
- A. Weaker the soil's capacity to hold onto water and nutrients
 - B. Stronger the soil's capacity to hold onto water and nutrients
 - C. Greater the risk of nutrient leaching
 - D. Greater the porespace

166. **What are small organelles found in large numbers in the cytoplasm of a cell?**
- A. vacuoles
 - B. mitochondria
 - C. ribosomes
 - D. chloroplasts
167. **Why is topsoil darker than all other levels of soil?**
- A. It contains all the darker colored minerals
 - B. It contains volcanic rock
 - C. It contains more organic matter
 - D. It contains bits of burned trees
168. **Which grain is grown in Mississippi?**
- A. wheat
 - B. rice
 - C. maize
 - D. milo
169. **How do scientists classify different types of soil?**
- A. Scientists classify soil into major groups based on climate, plants, and soil composition.
 - B. Scientists classify soil into groups based on where they are in the country and what kind of animal bones are in it.
 - C. Scientists classify soil into groups based on what Lowe's it came from.
 - D. none of above
170. **In soil the air present comes from ____**
- A. the atmosphere
 - B. respiration of soil organisms.
 - C. the atmosphere and from respiration of soil organisms.
 - D. water
171. **The bottom layer of soil is called ____**
- A. topsoil
 - B. subsoil
 - C. bedrock
 - D. none of above
172. **What does humus contain?**
- A. sand
 - B. glass
 - C. clay
 - D. decayed plants and animals
173. **This type of soil is best for plant growth.**
- A. rock
 - B. sand
 - C. loam
 - D. clay
174. **An ideal soil structure would be**
- A. Clumpy - forms aggregates that hold their shape
 - B. Loose - the soil does not form aggregates or shape
 - C. Granular - forms small crumbly aggregates
 - D. Solid - the soil is impermeable like cement
175. **The rock which soaks water is**
- A. permeable
 - B. impermeable
 - C. Marble
 - D. none of above
176. **Which particle of soil is the largest?**
- A. sand
 - B. gravel
 - C. silt
 - D. clay

177. **Soil profile is a vertical section of the soil showing its horizons. Arrange the following according to the correct sequence of a Master horizons?**
- A. O, A, B, C, E
 - B. A, B, C, E, O
 - C. O, A, B, E, C
 - D. O, A, E, B, C
178. **Which layer of soil is a combination of rocks and soil?**
- A. Humus
 - B. Subsoil
 - C. Parent Material
 - D. Bedrock
179. **the experiment done by heating the soil in a glass container then smoke is observed shows that ____ is in the soil**
- A. organic matter
 - B. water
 - C. animals
 - D. air
180. **Which particle holds the least amount of water?**
- A. Clay
 - B. Silt
 - C. Sand
 - D. none of above
181. **Most gray soil contains silt. Sandy soil is usually light brown. Many dark soils contain dead plants and animals. Which color of soil most likely contains humus?**
- A. gray
 - B. light brown
 - C. dark brown
 - D. white
182. **What type of soil has large particles and can't hold water good?**
- A. Sandy
 - B. Peaty
 - C. Silty
 - D. Clay
183. **Humus is formed from rotting ____**
- A. Clay and soil
 - B. Animal and plants
 - C. Wood and rocks
 - D. none of above
184. **Which of the following best describes vascular tissue?**
- A. provides a protective covering for the plant
 - B. comprises the majority of the primary plant body
 - C. specializes in storage, photosynthesis and support
 - D. transports food, water, hormones and minerals throughout the plant
185. **Place the following layers in order from top to bottom: bedrock, topsoil, subsoil, organic, parent material.**
- A. Organic, Topsoil, Subsoil, Parent Material, Bedrock
 - B. Organic, Topsoil, Parent Material, Subsoil, Bedrock
 - C. Topsoil, Organic, Subsoil, Parent Material, Bedrock
 - D. Topsoil, Organic, Parent Material, Subsoil, Bedrock
186. **Which type of soil can hold the greatest amount of water?**
- A. sand
 - B. silt
 - C. clay
 - D. loam

187. **Which of the following describes how well soil can grow plants?**
- A. soil texture
 - B. soil fertility
 - C. soil structure
 - D. soil arrangement
188. **soil has black color and its best for growing plants**
- A. clay
 - B. sand
 - C. organic
 - D. none of above
189. **Which soil particle is the largest?**
- A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
190. **Horizon O is an organic horizon that comprises three sub-horizons. Which of the following did sapric (highly decomposed organic horizon) belongs?**
- A. Oa
 - B. Oe
 - C. Oi
 - D. Ou
191. **This is the least likely to undergo compaction, but most at risk for erosion**
- A. Clay
 - B. Silt
 - C. Sand
 - D. Loam
192. **In addition to the rock particles the soil contains-**
- A. Air and water
 - B. Water and plants
 - C. Minerals, organic matter, air and water
 - D. none of above
193. **This land is capable of a wide variety of agricultural uses that involve regular cultivation where in fact, the easiest land to farm. Which land and soil class does it refer to?**
- A. Land and Soil Capability Class 8
 - B. Land and Soil Capability Class 3
 - C. Land and Soil Capability Class 2
 - D. Land and Soil Capability Class 1
194. **What language is used for scientific classification?**
- A. English
 - B. Latin
 - C. Spanish
 - D. French
195. **What is humus?**
- A. the bottom layer of soil
 - B. the largest particle that makes up soil
 - C. remains of decayed plants and animals in the soil
 - D. none of above
196. **This type of soil is made of tiny pieces of rock.**
- A. sand
 - B. clay
 - C. humus
 - D. loam
197. **What are the two ways nitrogen gas is turned into a form plants and animals can use?**
- A. lightning & bacteria
 - B. bacteria & worms
 - C. lightning & worms
 - D. bacteria & fungi

198. **Which of the following is a fruit food crop in Utah?**
- A. cotton
 - B. coffee
 - C. apricots
 - D. apples
199. **Which soil will allow the water to pass through easily.**
- A. Clay
 - B. Sand
 - C. Silt
 - D. none of above
200. **The practice of planting different things each year, in order to maintain the nutrients in the soil of a field.**
- A. soil rotation
 - B. soil conservation
 - C. crop managing
 - D. crop rotation
201. **Which one of these uses the nutrients in soil to grow**
- A. Plant matter
 - B. Weathering
 - C. Decompose
 - D. Trees
202. **The rate of weathering and formation of soil is determined by:**
- A. Number of micro organisms present in the soil.
 - B. Temperature and rainfall.
 - C. The types of rocks.
 - D. none of above
203. **In soil there is ____ of mineral content**
- A. 25%
 - B. 5%
 - C. 45%
 - D. none of above
204. **What living thing are in soil.**
- A. sand
 - B. glass
 - C. minerals
 - D. earthworms
205. **Nutrients are lost from the soil when**
- A. products from plants are harvested
 - B. animals are harvested
 - C. animals are removed from the farm
 - D. all of the above
206. **Which type of soil is best for planting?**
- A. Loam
 - B. Clay
 - C. Sand
 - D. none of above
207. **Organic Material adds what to the soil?**
- A. Minerals
 - B. AIr
 - C. Nutrients
 - D. none of above
208. **Soil is a mixture of ____**
- A. air, minerals and water
 - B. living and non-living things
 - C. sand, silt, clay and nutrients
 - D. all of the above
209. **What percent of an ideal soil is organic matter?**
- A. 20-30
 - B. 45
 - C. 5
 - D. none of above

210. **Which of the following involves the combination of two haploid sex cells to create an individual?**
- A. Asexual reproduction
 - B. Sexual reproduction
 - C. Vegetative propagation
 - D. Induced propagation
211. **Which is not a type of soil?**
- A. Loam
 - B. Sand
 - C. Dirt
 - D. Silt
212. **This is the most ideal soil for plant growth and productivity**
- A. Clay
 - B. Silt
 - C. Sand
 - D. Loam
213. **The water holding capacity is the highest in -**
- A. Sandy soil
 - B. Clayey soil
 - C. Loamy soil
 - D. none of above
214. **Which soil particle is the smallest?**
- A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
215. **___ soil lets least water pass through it:**
- A. Clay
 - B. sand
 - C. loam
 - D. none of above
216. **What is loam?**
- A. an even mixture of sand, silt, and clay
 - B. soil made of mostly sand
 - C. soil made of mostly clay
 - D. a mixture of gravel and sand
217. **Define Parent material.**
- A. Parent material is the substance from which humus is formed
 - B. Parent material is the substance from which soil is formed.
 - C. Parent material is the substance where water gets contaminated
 - D. Parent material is air, plants and water
218. **___ rocks form under intense heat and pressure.**
- A. sedimentary
 - B. igneous
 - C. metamorphic
 - D. magma
219. **Which statement is not true about sand?**
- A. sand has small particles that feel smooth
 - B. water quickly passes through sand particles
 - C. sand particles feel gritty and rough
 - D. sand has the largest particles of rock
220. **What land capability class has severe restrictions but is still suitable for cultivation with careful management?**
- A. Class 4
 - B. Class 5
 - C. Class 7
 - D. Class 8

221. **All of the following processes help form topsoil except ____**
- A. movement of oceans
 - B. decay of plants
 - C. weathering of rocks
 - D. decomposition of animals
222. **Which of the following is not a type of rock?**
- A. igneous
 - B. magma
 - C. metamorphic
 - D. sedimentary
223. **As surface area of a rock increases, the rate of weathering ____**
- A. Decreases
 - B. Increases
 - C. Stays Constant
 - D. none of above
224. **What happens to soil if no plants are in them and it rains?**
- A. soil erosion
 - B. soil absorbs the water
 - C. soil becomes mud
 - D. soil becomes sand
225. **Your science teacher gives you a glass jar filled with water, decaying material, topsoil, dirt, and small rocks. She has the image of the soil profile on the board. Which layer in the jar would you find at Horizon A?**
- A. subsoil
 - B. topsoil
 - C. humus
 - D. bedrock
226. **The other name for phosphorus is ____**
- A. Potash
 - B. Phosphate
 - C. Nitrogen
 - D. Manganese
227. **What is the top layer of soil made up of broken down pieces of dead plants and animals?**
- A. bedrock
 - B. humus
 - C. topsoil
 - D. subsoil
228. **If erosion occurs, which of the following negative effects may happen?**
- A. landslides
 - B. destruction of homes and animal habitats
 - C. pollutes water with soil
 - D. all of the above
229. **Which layer of soil often contains litter?**
- A. the A horizon
 - B. the B horizon
 - C. the C horizon
 - D. the bedrock
230. **ASSET QUESTION In which group will all the three items dissolve after mixing with water**
- A. salt, ice, clay
 - B. sand, sugar, oil
 - C. salt, ice cube, sugar
 - D. ice cube, sugar, oil
231. **This type of soil is sticky when wet and hard when dry.**
- A. clay soil
 - B. sand
 - C. garden soil
 - D. none of above

232. **Rocks that are formed when red-hot magma cools down.**
- A. sedimentary rocks
 - B. metamorphic rocks
 - C. igneous rocks
 - D. magma rocks
233. **It is an approach of studying soil in which it focuses to its origin and classification as it occurs in the environment. This is known as ____**
- A. Pedalogical approach
 - B. Edapological approach
 - C. Pedological approach
 - D. Edopological approach
234. **An animal that lives in an underground by making a hole and mixing up air, water and humus in the soil is called a ____**
- A. Decomposer
 - B. Burrower
 - C. Humus Source
 - D. none of above
235. **Which of the following plants does well in below freezing temperatures?**
- A. watermelons
 - B. carrots
 - C. corn
 - D. cacti
236. **The three groups of rocks are classified by**
- A. How they form
 - B. Color
 - C. Grain size
 - D. Chemical Composition
237. **This is the nutrient that plants depend upon most for water uptake**
- A. Phosphorous
 - B. Potassium
 - C. All of the above
 - D. None of the above
238. **What are the smallest particles that make up soil called?**
- A. sand
 - B. bedrock
 - C. clay
 - D. humus
239. **What is the total economic value of crops grown in the Western region?**
- A. \$37 billion
 - B. \$28 billion
 - C. \$52 billion
 - D. \$41 billion
240. **Compaction is defined as ____**
- A. the mechanical process to increase soil density, to increase void and reduce permeability
 - B. the mechanical process to increase soil density, to reduce void and reduce permeability
 - C. the mechanical process to decrease soil density, to reduce void and reduce permeability
 - D. the mechanical process to decrease soil density, to increase void and reduce permeability
241. **What is the soil that holds water very well?**
- A. Sand
 - B. Loam
 - C. Clay
 - D. none of above

242. **Peter wants to grow some bell peppers in his garden. Peter tests the pH of the soil and finds that the plants will thrive in the soil. What was the most likely pH reading of the soil?**
- A. 1
 - B. 3
 - C. 6
 - D. 14
243. **Soil that is rich in humus has high**
- A. fertility.
 - B. water content.
 - C. sand content.
 - D. clay content.
244. **Which describes the soil layers in order from the surface?**
- A. top soil, bedrock, horizon C, subsoil
 - B. top soil, subsoil, horizon C, bedrock
 - C. top soil, horizon C, subsoil, bedrock
 - D. none of above
245. **What are the names of the four types of Soil?**
- A. humus, sand, silt, clay
 - B. humus, sand silt, bark
 - C. sand, silt, clay
 - D. none of above
246. **Two methods of soil conservation in farming are**
- A. reclamation and subsurface mining
 - B. landscaping and nylon fencing
 - C. selective harvesting and replanting
 - D. contour plowing and windbreaks
247. **The R horizon is also know as.**
- A. Partly Weathered rock
 - B. Topsoil
 - C. Subsoil
 - D. Bedrock
248. **Which of the following is the correct order of soil particles in order of increasing particle size?**
- A. clay-sand-silt
 - B. sand-clay-silt
 - C. silt-clay-sand
 - D. clay-silt-sand
249. **Gardeners will sometimes add lime to soils that are too acidic. Lime acts as a fertilizer and raises the pH of the soil to an appropriate level. What soil pH most likely requires the application of lime?**
- A. 4
 - B. 7
 - C. 9
 - D. 11
250. **How does soil form?**
- A. Soil forms as rock is broken down by weathering and mixed with other materials on the surface.
 - B. Soil forms when someone takes a shovel and breaks rocks, and then mixes it with dirt.
 - C. Soil forms when an you throw rocks and dirt into a pond.
 - D. Soil forms when you mix water and rocks together, then add air.
251. **Which two states in the Midwest Region are soybeans primarily grown?**
- A. Indiana and Minnesota
 - B. Iowa and Illinois
 - C. Kansas and Iowa
 - D. Ohio and Michigan

252. **What is the primary crop of Nevada?**
- A. apples
 - B. almonds
 - C. coffee
 - D. garlic
253. **___ is the breaking down of rocks, soils, and minerals, etc.**
- A. Weathering
 - B. Soil profile
 - C. Soil
 - D. All of the above
254. **What are the three types of soil we learned about?**
- A. insects, sand, topsoil
 - B. clay, sand, humus
 - C. topsoil, subsoil, bedrock
 - D. earthworms, sand, silt
255. **There are terms called for a major factor in soil formation, choose the correct term for each factor of soil formation.**
- A. Climosequence for climate
 - B. Biosequence for organisms
 - C. Chronosequence for time
 - D. Lithosequence for topography
256. **The Midwest Regions' economic value of crops equal what percent of the total United States' agricultural products?**
- A. 26
 - B. 83
 - C. 70
 - D. 58
257. **The best way to increase water holding capacity and nutrient supplying capacity of a coarse-textured soils is to ___**
- A. Apply large quantity of liming materials
 - B. Add and incorporate by deep plowing voluminous amount of clay
 - C. Incorporate adequate amount of organic matter
 - D. Apply the recommended rate of commercial fertilizer
258. **Which of the following is a cool season crop?**
- A. eggplant
 - B. tomatoes
 - C. potatoes
 - D. pumpkins
259. **What is a material found on the surface of the earth consisting of rock, sand, clay, dead plants, and animal remains?**
- A. silt
 - B. soil
 - C. bedrock
 - D. loam
260. **Humus is made up of what materials?**
- A. small bits of shells and bones
 - B. decomposing plants and animals
 - C. quartz and feldspar minerals
 - D. silt and clay
261. **This generally has the highest cation exchange capacity? (CEC)**
- A. Clay
 - B. Silt
 - C. Sand
 - D. Loam
262. **What color of soil has a lot of humus?**
- A. black soils
 - B. white soils
 - C. reddish colored soils.
 - D. none of above

263. **Gymnosperms produce seeds usually in**
- A. cones
 - B. flowers
 - C. fruit
 - D. spores
264. **At the same level of organic matter, evaluate which are the highest water holding capacity?**
- A. Loamy sand
 - B. Clay loam
 - C. Clay
 - D. Sandy loam
265. **What effect do plants roots have on a rock?**
- A. They hold it together
 - B. They made it turn to sand
 - C. They cause it to undergo chemical changes
 - D. They break it apart
266. **weathering** ____
- A. can cause droughts
 - B. starts erosion
 - C. creates nutrients
 - D. creates soil
267. **Which is the correct order of weathered rocks from largest to smallest?**
- A. clay, silt, sand, gravel
 - B. sand, silt, clay, gravel
 - C. gravel, sand, silt, clay
 - D. gravel, sand, clay, silt
268. **Soil horizons, in order, from the surface are:**
- A. A, O, B, C, R
 - B. O, A, B, C, R
 - C. A, B, C, R, O
 - D. R, A, B, C, O
269. **Which plant hormone is known as the stress hormone?**
- A. auxins
 - B. ethylene
 - C. cytokinins
 - D. abscisic acid
270. **What does weathering mean?**
- A. To form or create new
 - B. To build up
 - C. To break down
 - D. To completely destroy
271. **What soil is best for growing plants?**
- A. clay
 - B. sand
 - C. mud
 - D. topsoil
272. **It is considered as the basic structural unit of soil.**
- A. Peds
 - B. Aggregates
 - C. Land
 - D. Gravel
273. **We can protect soil from erosion and maintain its quality by**
- A. cutting trees
 - B. throwing garbage on land
 - C. destroying embankments along river banks
 - D. planting different crops at different time
274. **There are three classes of rocks, identify which of the following did magma belongs?**
- A. Sedimentary rocks
 - B. Igneous rocks
 - C. Metamorphic rocks
 - D. Intrusive rocks

275. **Humus is:**
- A. the part of soil made up of decayed parts of once-living things.
 - B. a dip that is made of beans.
 - C. a bone that can be found in the upper arm.
 - D. a sound people make when their lips are together.
276. **Often phrased as an "If, Then" statement, this is an educated guess for a solution to a scientific problem.**
- A. solution
 - B. hypothesis
 - C. answer
 - D. fact
277. **Which of the following is the result of high temperatures?**
- A. inevitable plant death
 - B. necrosis
 - C. off-color pigmentation
 - D. heat stress
278. **Carlos Linnaeus is known as:**
- A. "Godfather" of taxonomy
 - B. Creating all the common names for plants
 - C. Neither of these
 - D. Both of these
279. **What is the total value of the food crops exported annually from Vermont?**
- A. \$3.8 million
 - B. \$1 million
 - C. \$464.8 million
 - D. \$22.9 million
280. **Roots absorb which of the following?**
- A. sunlight
 - B. pests
 - C. water and nutrients
 - D. water and sunlight
281. **Which of the following plants completes its life cycle in one year?**
- A. annual
 - B. perennial
 - C. biennial
 - D. fellial
282. **This is the nutrient that plants need to form the amino acids needed to assemble proteins**
- A. Nitrogen
 - B. Potassium
 - C. All of the above
 - D. None of the above
283. **Many plants cannot grow in sandy soil. Why is this true?**
- A. Sandy soil does not hold enough water.
 - B. Air cannot pass through sandy soil.
 - C. Roots cannot easily push through sandy soil.
 - D. Sandy soil has too many nutrients.
284. **If a plant is placed in a pot that contains sandy soil, what will happen when the plant is watered?**
- A. The soil will hold the water.
 - B. The water will puddle on top of the soil.
 - C. The water will drain through the soil quickly.
 - D. The water will immediately dry up.
285. **Where does most of the water go when it rains?**
- A. in the ocean
 - B. in the rivers
 - C. in the gutters
 - D. it absorbs into the soil

286. **The tiny animal can be found in soil is ____**
- A. Elephant
 - B. Spider
 - C. Worm
 - D. Duck
287. **The division bryophyta includes which of the following types of plans?**
- A. Mosses
 - B. Ferns
 - C. Fungi
 - D. Flowering plants
288. **The practice of growing plants without soil, but by adding the plants' nutrients directly to the water.**
- A. hydrosphere
 - B. hydroglyphics
 - C. hydroponics
 - D. hydrocycle
289. **____ layer of soil is not porous**
- A. Subsoil
 - B. Substratum
 - C. Top soil
 - D. Bedrock
290. **A substance is composed of organic material such as dead plants. To which category does the substance belong?**
- A. magma
 - B. mineral
 - C. ore
 - D. soil
291. **Rusts are classified as which of the following?**
- A. fungus
 - B. bacteria
 - C. virus
 - D. cancer
292. **Soil is made of small ____**
- A. icicles
 - B. particles
 - C. plastics
 - D. bricks
293. **Which of the following is the most common plant part used to identify plants?**
- A. roots
 - B. stems
 - C. flowers
 - D. leaves
294. **Which plant part absorbs light energy to produce plant sugar?**
- A. stem
 - B. leaves
 - C. roots
 - D. flower
295. **Two types of water holding in the soil, assess which of this statement belongs "after the rain, water from raindrops attracts to the available water present in the soil".**
- A. Adhesion
 - B. Chelation
 - C. Cohesion
 - D. Abrasion
296. **Compared to the primary minerals, the secondary minerals are those minerals that form from ____**
- A. Weathering of rocks
 - B. Weathering of primary minerals
 - C. Weathering of rocks and minerals
 - D. All of the above

297. **Layered rocks that are weathered by wind and water are called ____**
- A. sedimentary rocks
 - B. igneous rocks
 - C. metamorphic rocks
 - D. magma rocks
298. **When grafting the part that becomes the stem and leaves is the ____**
- A. Union
 - B. Scion
 - C. Style
 - D. Ovary
299. **Based on the virtual museum experiment, which type of soil retained the most water?**
- A. sand
 - B. gravel
 - C. clay
 - D. none of above
300. **What is the largest particle that makes up soil called?**
- A. humus
 - B. erosion
 - C. clay
 - D. sand
301. **Which property of soil could students determine by rubbing a sample between their fingers?**
- A. The texture of the soil
 - B. The soil's ability to support life
 - C. The color of the soil
 - D. The processes that formed the soil
302. **Which soil has the largest particles?**
- A. clay
 - B. sand
 - C. loam
 - D. silt
303. **Which plant growth regulator is applied to fields of fruit allowing them to ripen at the same time for harvest?**
- A. abscisic acid
 - B. ethylene
 - C. auxins
 - D. gibberelins
304. **Soil is formed by**
- A. cooling
 - B. heating
 - C. weathering
 - D. freezing
305. **How can a plant become a part of soil?**
- A. The plant's roots can grow deep in the ground.
 - B. The plant's seeds can drop on the ground and get eaten.
 - C. The plant's flower can stick pollen to a bee.
 - D. The plant's leaves can decompose after they fall.
306. **If you dug up some soil and put it in a warm place what would happen to the dirt?**
- A. it would become rocks
 - B. the water would evaporate from the soil
 - C. it would become clay
 - D. it would become humus
307. **Soil formation begins with the weathering of**
- A. litter
 - B. humus
 - C. bedrock
 - D. the A horizon

308. **What emerges from the seed and pushes into the soil?**
- A. embryo
 - B. endosperm
 - C. cotyledons
 - D. radicle
309. **___ is the upper layer of soil on the surface of Earth that is dark in color and has the smallest particles.**
- A. topsoil
 - B. humus
 - C. subsoil
 - D. none of above
310. **When a soil is lacking a nutrient it is called a**
- A. deficiency
 - B. drought
 - C. disaster
 - D. none of above
311. **What is soil?**
- A. It is the loose material in which plants can grow in the upper layer of Earth.
 - B. It is the leaf that grows on the plant.
 - C. It is the food that can be found inside the seed.
 - D. none of above
312. **The layers of soil are also known as ___**
- A. horizons
 - B. humus
 - C. loam
 - D. dirt
313. **Horizon O had three sub-horizons namely: Oi, Oe and Oa. Choose which of the following is the correct paired of sample according to the decomposition.**
- A. Oi- hemic
 - B. Oa- fibric
 - C. Oe- sapric
 - D. Oi- fibric
314. **What is Humus made up of?**
- A. decompose
 - B. decayed animal and plant parts
 - C. decayed soil
 - D. none of above
315. **Why is water such an important component of soils?**
- A. Soil formation would be possible without water
 - B. Soils doesn't need water
 - C. Water is a great help for soil
 - D. Soil formation would not be possible without water
316. **Which of the following is NOT an element of erosion?**
- A. Water
 - B. Wind
 - C. Chemical
 - D. Electrical Current
317. **When plants, animals, and other organisms die, they break down and become part of the soil. What is this part of the soil called?**
- A. sand
 - B. silt
 - C. clay
 - D. humus
318. **What do plants and animals need to grow?**
- A. nutrients
 - B. soil
 - C. loam
 - D. humus

319. **How long does it take for soil to be created?**
A. 5 years
B. 1 million years
C. 100-200 years
D. forever
320. **Decayed remains of plants and animals are called ____**
A. litter
B. clay
C. humus
D. soil
321. **What is the topmost layer of the earth's crust?**
A. Soil
B. Loam
C. Sand
D. Caly
322. **Ellen grabs a topsoil sample in her hand. She rolls it into a ball. The soil feels gritty and the ball falls apart. What part of the topsoil most likely made the topsoil feel gritty?**
A. clay
B. sand
C. silt
D. humus
323. **What type of soil is good for the plants?**
A. Clay
B. Loam
C. Sand
D. none of above
324. **If wind, water, or ice move sediment from one place to another, it is called ____**
A. erosion.
B. weathering.
C. a sinkhole.
D. none of above
325. **The ____ is what we call all three horizons and the bedrock together.**
A. soil layers
B. top soil
C. sub soil
D. loam soil
326. **control the cell's activities; contains the cell's DNA**
A. mitochondria
B. cell membrane
C. nucleus
D. golgi body
327. **What is the middle layer of soil which is a combination of soil and rocks?**
A. humus
B. subsoil
C. topsoil
D. bedrock
328. **To break down organic matter to become part of the soil.**
A. nutrients
B. materials
C. decompose
D. decompress
329. **What is a method for growing plants in water without soil?**
A. crop rotation
B. hydrosphere
C. organic foods
D. hydroponics

330. **How do factors such as pore space and compaction affect plant growth?**
- A. Soils with large amounts of porespace enable roots to absorb more water and soil
 - B. Soils with small amounts of porespace are less likely to undergo nutrient leaching
 - C. Compacted soils have less porespace, which reduces the availability of water, nutrients and oxygen
 - D. All of the above are accurate
331. **Which type of soil can hold a lot of water?**
- A. Silty
 - B. Sandy
 - C. Peaty
 - D. Clay
332. **Sandy is good for farming.**
- A. True
 - B. False
 - C. Ham
 - D. Burgers
333. **Rock particles of soil come in what three sizes.?**
- A. sand, silt, clay
 - B. humus, silt, bark
 - C. sand, texture, color
 - D. none of above
334. **A seed with two cotyledons is called a —**
- A. Monocot
 - B. Dicot
 - C. Flower
 - D. Fruit
335. **What term refers to the living organisms in soil?**
- A. biota
 - B. pH
 - C. parent material
 - D. topography
336. **Which layer of soil has the most humus?**
- A. topsoil
 - B. subsoil
 - C. bedrock
 - D. none of above
337. **Soil Formation is -**
- A. Slow process
 - B. Fast process
 - C. Rapid process
 - D. None of these
338. **Which soil do plants grow best in?**
- A. clay
 - B. silt
 - C. loam
 - D. sand
339. **Which of the following is a disadvantage of using hydroponics?**
- A. slower plant growth
 - B. costs are higher than soil culture
 - C. lower crop yields
 - D. weeding and cultivation are required
340. **What soil is a mixture of sand, silt, and clay?**
- A. soil
 - B. silt
 - C. clay
 - D. loam

341. **Plant evaluation is part of which industry?**
- A. mechanics
 - B. agricultural
 - C. textile
 - D. media
342. **What is not a benefit of adding lime?**
- A. Less acidic soil encourages soil organisms.
 - B. Lime can flocculate clay particles, making pores larger.
 - C. Adds calcium
 - D. Lowers the pH.
343. **What composes the organic matter in soil?**
- A. pieces of rock that has been split apart
 - B. pore spaces
 - C. liquids
 - D. decomposed remains of once living things
344. **Which of the following is not biotic?**
- A. Tree roots
 - B. Insects
 - C. Gravel
 - D. Seeds
345. **Which of the following is the correct order of the taxonomic hierarchy?**
- A. Kingdom, division, class, order, family, genus, species
 - B. Kingdom, division, class, order, family species, genus
 - C. Kingdom, class, division, order, Mayo, species
 - D. Kingdom, division, order, class, family, genus, species
346. **What process breaks down bedrock to begin soil formation?**
- A. leaching
 - B. weathering
 - C. decomposition
 - D. humus
347. **What makes up the scientific name of an organism?**
- A. Kingdom and Phylum
 - B. Family and Genus
 - C. Genus and Species
 - D. none of above
348. **In which soil type would water have difficulty draining?**
- A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
349. **Which of the following is the combination of two different copies of an allele for a gene?**
- A. homozygous dominant genotype
 - B. heredity
 - C. homozygous recessive gentoype
 - D. heterozygous genotype
350. **Which soil feels sticky when wet?**
- A. sand
 - B. loam
 - C. clay
 - D. none of above
351. **Bulk density is an indication of soil porosity and soil texture.**
- A. True
 - B. Probably true
 - C. False
 - D. Probably false

352. **Which of these is the correct definition for the term sustainable?**
- A. The responsible development and management of areas
 - B. Improvement of a run down area
 - C. Meeting the needs of people without damaging the ecological, economic, or social components of the environment.
 - D. People take responsibility for improving their living conditions
353. **Which type of soil does water have difficulty moving through easily?**
- A. Sandy
 - B. Humus
 - C. Loam
 - D. Clay
354. **Which is the upper, outermost layer of soil, usually the top 5-10 inches?**
- A. Bedrock
 - B. Topsoil
 - C. Subsoil
 - D. Partly weathered rock
355. **Name the layer that is between sand and clay**
- A. Silt
 - B. Humus
 - C. Gravel
 - D. None of the above
356. **Bulk density is a measure of compaction or looseness of the soil, therefore, the higher the bulk density is an indication of higher porosity.**
- A. True
 - B. Probably true
 - C. False
 - D. Probably false
357. **___ is a blend of the three main types of soil.**
- A. Topsoil
 - B. Subsoil
 - C. Loam
 - D. Bedrock
358. **Which of the following is a quantitative trait?**
- A. flower color
 - B. seed yield
 - C. pod shape
 - D. stem length
359. **Topography is the arrangement of the natural and artificial physical features of an area. The following are the effects of topography in soil formation EXCEPT.**
- A. It can enhance or retard the effect of climate on soil formation
 - B. May affect the absorbance of solar energy in a given landscape
 - C. It can inhibit the structure of soil in the area
 - D. Steep slopes generally enhance soil erosion and decrease soil infiltration hence slowing down soil formation
360. **Soil formation begins with the weathering of ___**
- A. Humus
 - B. Subsoil
 - C. Litter
 - D. Rock
361. **___ condition of not having enough food or not having the right kind of food for good health**
- A. Malnutrition
 - B. Pesticide
 - C. Nutrition
 - D. Food Waste

362. **Angiosperms produce seeds in**
- A. cones
 - B. fruit
 - C. leaves
 - D. roots
363. **How is soil formed?**
- A. Soil forms as rock is broken down by weathering and mixes with other materials on the surface. Soil is constantly being formed wherever bedrock is exposed.
 - B. Soil is formed by weathering.
 - C. Soil is formed by storms. Storms change the shape of rocks.
 - D. Soil is formed by people. People can place it in many different places. The soil gets affected with other surroundings.
364. **Water can drain easily through -**
- A. Sandy soil
 - B. Loamy soil
 - C. Clayey soil
 - D. none of above
365. **Which of the following is an accurate statement in regards to soil pH?**
- A. pH is a measure of the particle size
 - B. a pH of 7 indicates very acidic soil
 - C. a pH of 7 indicates high organic matter
 - D. pH indicates how basic or acidic the soil is, a pH of 6 is ideal
366. **If you increase the surface area of a rock, how will it affect the rate at which it weathers?**
- A. It will weather more quickly.
 - B. It will have no effect because surface area is not a factor in weathering.
 - C. It will weather more slowly.
 - D. It will have no effect because a rock does not have a surface area.
367. **A rock formed from fragments of other rocks is a(n)**
- A. Metamorphic Rock
 - B. Sedimentary Rock
 - C. Extrusive Rock
 - D. Igneous Rock
368. **Which of these BEST describes the properties of clay-rich soils?**
- A. medium sized particles, very good drainage, feels rough and gritty
 - B. small particles, good drainage, feels like flour
 - C. different sized particles, good drainage, rich in organic matter
 - D. very small particles, poor drainage, feels sticky when wet
369. **What is true about Humus?**
- A. dark and soft
 - B. contains much of what plants need for growth
 - C. The more humus a soil has, the better plants will grow!
 - D. All the previous.
370. **GMO stands for**
- A. Genetically modified organism
 - B. Genetically made organism
 - C. Generically made organ
 - D. Generically modified organism
371. **What are the categories of soil composition?**
- A. Organic and Inorganic matter
 - B. Air
 - C. Water and minerals
 - D. All of the above

372. **The average weather condition in an area over a long period of time is called**
- A. temperature
 - B. climate
 - C. weather
 - D. humidity
373. **Which method is suitable to obtain the field density for silt & clay**
- A. Sand replacement method
 - B. Core cutter method
 - C. Field compaction using grid roller
 - D. Field compaction using the smooth wheeled roller
374. **What are the components of soil?**
- A. Dirt, Plants, Minerals, Water
 - B. Climate and Weather
 - C. Minerals, rocks, inorganic materials, organic materials, water, air
 - D. Sun, Grass, Materials, Rock, Sunlight, and Oxygen
375. **All of the layers of soil together can be called a ____**
- A. profile
 - B. horizon
 - C. row
 - D. layer
376. **Decayed organic material in soil is called ____**
- A. Litter
 - B. Silt
 - C. Humus
 - D. Clay
377. **Which horizon has smaller rock and mineral particles than the other layers?**
- A. A
 - B. B
 - C. C
 - D. D
378. **What is the soil that is good for making pots?**
- A. Loam
 - B. Sand
 - C. Clay
 - D. none of above
379. **Pick the TRUE statement:**
- A. Topsoil is a type of soil
 - B. Loam is a layer of soil
 - C. Loam is a type of soil
 - D. Topsoil is a layer of bedrock
380. **A gardener wants to add humus to his soil because it contains a lot of nutrients and helps retain water. What does humus form from?**
- A. Sand
 - B. Rocks and minerals
 - C. Decayed animals and plants
 - D. Volcanic lava
381. **A single layer of soil is called a ____**
- A. profile
 - B. horizon
 - C. row
 - D. column
382. **Which of these slows down soil erosion on construction sites?**
- A. clear cutting
 - B. strip mining
 - C. contour plowing
 - D. sandbags and nylon fencing

383. **Which of the following is NOT a property of soil?**
- A. Color
 - B. Texture
 - C. Where it's located
 - D. Ability to retain water
384. **What is a soil made up of very small broken pieces of rock?**
- A. soil
 - B. loam
 - C. silt
 - D. bedrock
385. **Which statement about climate and weather is correct?**
- A. Weather is the amount of precipitation in an area, but climate takes other factors into account.
 - B. Climate is the same all over the globe and weather differs from place to place.
 - C. Climate is the average weather of an area.
 - D. Weather is the average climate over a large area. Weather is the average climate over a large area.
386. **Different types of soil contain different amount of:**
- A. humus
 - B. living things
 - C. pieces of rocks
 - D. none of above
387. **overgrazing, overcropping, and deforestation impact erosion because of**
- A. weathering
 - B. soil
 - C. humans
 - D. wind
388. **Soil erosion is the process by which the**
- A. the land surface(top soil) is removed by wind, water or ice
 - B. formation of soil from rocks
 - C. rusting of soil
 - D. None of the above
389. **What are plants?**
- A. living things like radishes, trees, roses, and grass
 - B. rocks in soil
 - C. animals
 - D. none of above
390. **Soil is formed when ___ are broken down by weather, water and living things over long periods of time.**
- A. trees
 - B. rocks
 - C. insects
 - D. animals
391. **Why does a soil that has only sand and gravel not support plant growth well?**
- A. It holds in too much water
 - B. it holds in too little water
 - C. it has too many decomposers
 - D. it has too many minerals
392. **To break down or decay living things is called:**
- A. Plant matter
 - B. Weathering
 - C. Decompose
 - D. Trees
393. **Factors that affect soil formation**
- A. climate
 - B. slope
 - C. vegetation
 - D. all of the above

394. **Which element makes plant green?**
- A. Potassium
 - B. Nitrogen
 - C. Phosphorus
 - D. Magnesium
395. **what is a crumbly, dark brown soil that is a mixture of humus, clay, other minerals**
- A. bed rock
 - B. subsoil
 - C. loam
 - D. top soil
396. **Soil layers are called horizons because** _____
- A. The layers are all different
 - B. The layers are vertical
 - C. The layers are horizontal
 - D. The layers are above one another
397. **Subsoil is made mostly of**
- A. parent material
 - B. humus
 - C. clay and silt
 - D. bedrock
398. **What can erosion lead to?**
- A. landslides
 - B. pollution
 - C. flooding
 - D. all of the above
399. **What soil is sticky when wet?**
- A. Clay
 - B. Loam
 - C. Sand
 - D. none of above
400. **Splitting a root system into 2 or more pieces that will each become a new plant is called** _____
- A. Cuttings
 - B. Division
 - C. Tissue Culture
 - D. Grafting
401. **Where do rock particles in soil come from?**
- A. frozen water
 - B. bigger rocks
 - C. the sky
 - D. rain
402. **Which primary plant nutrient promotes strong root growth in young seedlings?**
- A. Phosphorus
 - B. Potassium
 - C. Nitrogen
 - D. Iron
403. **The starting material of soil**
- A. parent material
 - B. daughter material
 - C. topography
 - D. biota
404. **Which of the following best describes a dichotomous key?**
- A. Uses a branching diagram called a cladogram to show relationships
 - B. Identifies plants by a series of choices between pairs of alternatives
 - C. Is the systematic arrangement of plants into groups and subgroups based on common characteristics
 - D. Is a type of plant classification which uses a hierarchy system for classification

405. **The very top layer of soil is mostly made of**
- A. Solid rock
 - B. Clay and mineral deposits
 - C. A mixture of minerals and organic material
 - D. Mostly organic material (humus)
406. **Crop rotation can improve levels of organic matter in the soil. This is when**
- A. The type of crops grown in a paddock is changed regularly in a planned order.
 - B. Fast-growing crops are grown and ploughed back into the soil before they seed.
 - C. Part of a crop not harvested for sale can be returned to the soil
 - D. The soil is not cultivated, but seeds are sown directly into the soil.
407. **the grinding away of rock by rock particles carried by water, ice, wind, or gravity is called ____**
- A. abrasion
 - B. animal action
 - C. mining
 - D. plant action
408. **Soil is composed of three particle sizes. Which answer shows the arrangement from largest to smallest?**
- A. Sand, Silt, Clay
 - B. Clay, Silt, Sand
 - C. Sandy, Clay, Silt
 - D. Silt, Sand, Clay
409. **Physically breaking down rocks and materials is called ____ weathering.**
- A. Chemical
 - B. Mechanical
 - C. Biological
 - D. Permeable
410. **____ is the process of rocks breaking down and becoming other rocks.**
- A. erosion
 - B. weathering
 - C. rock cycle
 - D. water cycle
411. **Why does sand not hold water well?**
- A. sand has too many bits of shells in it
 - B. the rocks in the sand are too small to hold water
 - C. the large particles allow water to flow through quickly
 - D. sand is made of silt which does not hold water
412. **The top layer of soil is called ____**
- A. topsoil
 - B. subsoil
 - C. bedrock
 - D. none of above
413. **The pH scale ranges from 0 to ____ ?**
- A. 10
 - B. 12
 - C. 14
 - D. 16
414. **In which soil type would water drain easily?**
- A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
415. **Calculate the percent of volumetric moisture content if the gravimetric is 25%, bulk density of 1.20g/cm³ and water density of 1.00g/cm³.**
- A. 15%
 - B. 20%

- C. 25%
D. 30%
416. **What layer of soil is the best for growing plants?**
A. Horizon D
B. Topsoil
C. Bedrock
D. Clay
417. **Eolian soils are moved by ____**
A. wind
B. water
C. gravity
D. glaciers
418. **What material is soil mostly made of?**
A. nutrients
B. bits of bone
C. shells
D. pieces of rock
419. **The B horizon is**
A. rockier than the C horizon
B. richer in humus than the A horizon
C. less nutrient rich than the A horizon
D. thicker than the C horizon
420. **A student takes a rectangular piece of soap and writes the word "soap" on one of the soap's surfaces using a toothpick. The student then places the piece of soap below a dripping faucet with the lettering facing upward. Which question can be best studied using this model?**
A. How do the minerals in water affect landforms?
B. How is a mountain created using flowing water?
C. Do all minerals dissolve in rainwater?
D. Does dripping water cause erosion of land?
421. **The arrangement of different layers of soil at a place is called ____**
A. Partly weathered Rock
B. Weathering
C. Bedrock
D. Soil Profile
422. **How do organisms affect soils?**
A. Soil get eaten by animals
B. Chemically alters and physically mixes soils
C. Plants grow through the soil
D. Organism don't affect the soils
423. **This is termed used for a true soil or A and B horizons.**
A. Solum
B. Regolith
C. Saprolite
D. Liholith
424. **Sedimentary rocks are formed from the weathering of rocks exposed at the earth surface. The process involved the following EXCEPT.**
A. Fragmentation
B. Transformation
C. Transportation
D. Cementation
425. **The name for plants that have "identifiable flowers" and produce enclosed seed is:**
A. Gymnosperms
B. Angiosperms
C. Bryophyta
D. Thallophyta

426. **Properties of soil consist of ____**
- A. location, size, shape, color
 - B. size, shape, color
 - C. texture, color, how well it holds water, and particle size, ability to support plant growth
 - D. how well it holds water, shape, ability to support plant growth
427. **The five soil forming factors ____ to determine the soil characteristics.**
- A. Interacts
 - B. Act independently
 - C. Act solely
 - D. All of the above
428. **In which bin would you deposit a plastic toy?**
- A. A
 - B. B
 - C. C
 - D. D
429. **Physical weathering is the alteration of the physical properties of the materials without changing its chemical composition. All of this are the processes of physical weathering EXCEPT.**
- A. Unloading of erosion
 - B. Diurnal fluctuation in temperature
 - C. Alternate freezing and thawing
 - D. Solidification of materials due to heavy rain
430. **What is the main function of the flower of a plant?**
- A. provide food for insects
 - B. sexual reproduction
 - C. store food for the plant
 - D. provide surface area for the plant
431. **soil is important for**
- A. agriculture
 - B. food
 - C. plants
 - D. All of the above
432. **Color of the soil can tell you**
- A. soil pollution
 - B. a quick answer if the soil is healthy for farming
 - C. whether you need to add more nutrients
 - D. how much it has rained
433. **Which of the following processes will most likely contribute to the development of soil?**
- A. Volcanic eruptions that make new land
 - B. Building up of snow in very cold areas
 - C. Breaking down of rock by wind, water, and ice
 - D. Migration of animals to warmer climates
434. **Soil formation begins with weathering of:**
- A. Bedrocks
 - B. Rocks
 - C. Humus
 - D. none of above
435. **What layer is considered the 'B' layer of soil?**
- A. Organic
 - B. Topsoil
 - C. Subsoil
 - D. Parent material
436. **Which of the following is a native species in Connecticut?**
- A. white walnuts

- B. black walnuts
C. butternut walnuts
D. persian walnuts
437. **Medium-sized mineral particles of soil**
A. Sand
B. Silt
C. Clay
D. Horizons
438. **what word fits w/ soil that is made up of about equal parts of clay, sand, and silt**
A. litter
B. decomposers
C. subsoil
D. loam
439. **After heavy rain, the farm area of Mang Kanor is fully filled up with water. What type of soil moisture coefficient happened in the field?**
A. Field capacity
B. Hydroscopic coefficient
C. Saturation point
D. Permanent wilting point
440. **A seed with only one cotyledon is called a ____**
A. Dicot
B. Monocot
C. Flower
D. Fruit
441. **It is made up of small grains:**
A. Loamy Soil
B. Sandy Soil
C. Clayey Soil
D. none of above
442. **what consists of clay and other particles washed down from the A horizon, but little humus**
A. humus
B. subsoil
C. bedrock
D. loam
443. **What percentage of farms in the North-east sells products directly to consumers?**
A. 14 %
B. 25 %
C. 12 %
D. 75 %
444. **Which is NOT a layer of soil?**
A. bedrock
B. topsoil
C. undersoil
D. subsoil
445. **What is the correct composition of soil?**
A. Soil is old pizza, ramen noodles, and chocolate milk.(That's why it's brown.The chocolate milk. ;D)
B. Soil is the loose layer of dead leaves on the surface.
C. Soil is rock particles, minerals, decayed organic material, water, and air.
D. Soil is acid rain, plant growth, and limestone.
446. **Alluvial soils are moved by ____**
A. wind
B. water
C. gravity
D. glaciers
447. **Choose which of the following master horizon did topmost mineral matter occurs?**

- A. Horizon O
B. Horizon E
C. Horizon A
D. Horizon B
448. **Plants cannot grow without**
A. rocks
B. soil
C. moss
D. pesticides
449. **Breaking down or wearing away of rocks is called ____**
A. weathering
B. humus
C. erosion
D. none of above
450. **The process by which minerals in soil are removed or washed away is called ____**
A. carbonation
B. leaching
C. fertilizing
D. hydrolysis
451. **How do decomposers work hand-in-hand with humus?**
A. by removing gravel and sand from soil
B. by breaking down gravel into silt
C. by eating animals that may harm the soil
D. by breaking down the remains of dead plant and animal matter
452. **The organic matter in humus is made of**
A. dead worms
B. stems
C. roots
D. all of the above
453. **What type of erosion is slowed down by contour plowing and terracing?**
A. wind
B. water
C. air
D. none of above
454. **Which type of soil is characterized as having the finest particles holding greater amount of water?**
A. Loam
B. Clay
C. Sand
D. none of above
455. **Which soil would retain the least amount of water?**
A. gravel
B. silt
C. sand
D. clay
456. **Which type of soil does water quickly pass through?**
A. sand
B. clay
C. humus
D. silt
457. **Some soils have ____ particles which allow water to drain very easily.**
A. small
B. large
C. medium
D. rough
458. **Decayed organic material turns into dark colored material called ____**
A. litter
B. clay
C. humus
D. soil

459. ____ is the type of soil used most often with plants and on farms. It is a mixture of clay, sand, and silt.
- A. humus
 - B. soil
 - C. loam
 - D. dirt
460. **What exactly is bedrock?**
- A. Any organic rock or mineral
 - B. Rock that has not been weathered
 - C. Rock that lies underneath water
 - D. Especially soft rock
461. **This is found in the topsoil and is made of decaying plants and animals.**
- A. dirt
 - B. water
 - C. humus
 - D. subsoil
462. **Which layer of soil is the middle layer?**
- A. Bedrock
 - B. Humus
 - C. Subsoil
 - D. Parent Material
463. **What land class that restricts the use of plants?**
- A. Class 2
 - B. Class 3
 - C. Class 5
 - D. Class 7
464. **Which of the following increases demand that pushes the environment to its limit?**
- A. use of fossil fuels
 - B. pollution
 - C. population growth
 - D. tecnology
465. **Which of the following shows where soil formation happens at a faster rate?**
- A. Cold dry climate
 - B. Steep slopes
 - C. Valleys and flat areas
 - D. none of above
466. **Glacial till is the soil deposited by ____**
- A. wind
 - B. water
 - C. gravity
 - D. glaciers
467. **Farm effluent is the waste from dairy factories, dairy sheds and piggeries and includes dung, urine and udder wash.**
- A. It adds nutrients to the soil.
 - B. It adds organic matter to the soil.
 - C. It adds water to the soil.
 - D. All of the above.
468. **Which type of soil has a DARK BROWN color?**
- A. sand
 - B. loam
 - C. clay
 - D. none of above
469. **The break down of rock into smaller pieces is called**
- A. Plant matter
 - B. Weathering
 - C. Decompose
 - D. Trees
470. **Why is soil important to us?**
- A. it takes a very long time to produce
 - B. we use it for our crops and other food sources
 - C. it is finite (limited)
 - D. all of the above

471. **Soil is made of**
- A. weathered rocks and minerals
 - B. dead plants and animals
 - C. air and water
 - D. All of the above
472. **Which answer choice describes the characteristics of sand?**
- A. the middle size of the three compacts really well. Feels like flour and is smooth when wet
 - B. is the biggest of the three particles does not compact well. Feels Gritty.
 - C. the smallest and finest of the three particles. Packs extremely well. Feels slimy and sticky
 - D. none of above
473. **Water is temporarily stored in soil for plant use, which soil type is most likely to hold that water storage the longest?**
- A. sand
 - B. silt
 - C. clay
 - D. None, all equal
474. **___ is darkest colour soil.**
- A. Subsoil
 - B. Bedrock
 - C. Topsoil
 - D. None of the above
475. **There are ___ types of soil**
- A. 4
 - B. 5
 - C. 3
 - D. none of above
476. **Which of the following plant types makes up about 80 percent of all plants?**
- A. non-native plants
 - B. native plants
 - C. vascular plants
 - D. non-vascular plants
477. **After heavy rain, the percent water remaining in soil 2 to 3 days after filled up and after free drainage has practically ceased.**
- A. Field capacity
 - B. Hydroscopic coefficient
 - C. Saturation point
 - D. Permanent wilting point
478. **Which of the following is the first step in mitosis?**
- A. anaphase
 - B. telophase
 - C. prophase
 - D. metaphase
479. **Which of the following is the correct botanical nomenclature for a plant with the genus Bellis and the species perennis?**
- A. Bellis Perennis
 - B. Bellis perennis
 - C. Perennis bellis
 - D. Perennis Bellis
480. **___ takes place because of weathering of rocks.**
- A. Mountains
 - B. Soil Formation
 - C. Rock Formation
 - D. None of the above
481. **Which of these plants is nonvascular?**
- A. Apple tree
 - B. fern
 - C. dandelion
 - D. moss

482. **A rock containing iron is soft, crumbly, reddish in color. It's been chemically weathered by ____**
- A. Carbon Dioxide
 - B. Oxygen
 - C. Nitrogen
 - D. Sulfur
483. **It is important for soil to retain water to**
- A. withstand weathering
 - B. erode more slowly
 - C. help plants to grow
 - D. keep it from being dry
484. **Which of the following is the most important soil formation factor**
- A. Time
 - B. Climate
 - C. Slope
 - D. Organisms
485. **It is a type of soil physical properties that you may identify according to its soil particle groupings.**
- A. Soil texture
 - B. Soil consistency
 - C. Soil structure
 - D. Soil densities
486. **Soil is composed of**
- A. sand, silt and clay
 - B. air and water
 - C. humus
 - D. gravel
487. **Which plant can be planted in sand?**
- A. paddy plant
 - B. mango tree
 - C. rose plant
 - D. coconut tree
488. **This type of soil is yellowish in colour and can be found in the desert.**
- A. sand
 - B. garden soil
 - C. clay
 - D. none of above
489. **There are four process of soil formation. Which of the following that this statement belongs "movement of soil materials from one place to another mainly due to water".**
- A. Transformation
 - B. Translocation
 - C. Addition
 - D. Losses
490. **The Soil Family includes different sized particles called ____**
- A. dirt, clay, sand and silt
 - B. clay, loam, sand and silt
 - C. loam, organic matter, sand and silt
 - D. clay, loam, sand and soil
491. **The breaking down of rocks into smaller pieces.**
- A. erosion
 - B. weathering
 - C. sediment
 - D. sand
492. **How is rice planted?**
- A. a seed drill
 - B. a seed spreader
 - C. a row planter
 - D. it seeds itself
493. **Colluvial Soils are moved by ____**
- A. wind
 - B. water
 - C. gravity
 - D. glaciers

494. **All of the following are plant remains EXCEPT**
- A. Dead leaves
 - B. Sand Particles
 - C. Seed covers
 - D. Dried twigs
495. **The four main ingredients of soil are ____**
- A. wind, water, ice, and humus
 - B. water, air, rocks, and humus
 - C. worms, ice, rocks, and air
 - D. water, air, rocks, and worms
496. **What is the common name for Horizon A?**
- A. bedrock
 - B. topsoil
 - C. parent material
 - D. subsoil
497. **All soils have ____ that can be observed or measured**
- A. properties
 - B. color
 - C. smooth
 - D. beaker
498. **How does soil help in supporting life on Earth?**
- A. It filters the water
 - B. It helps recycle nutrients like carbon and nitrogen
 - C. Many plants grow in the soil
 - D. All of the above
499. **This is the unconsolidated material underlying the solum, relatively unaffected by the soil genetic processes.**
- A. Horizon A
 - B. Horizon B
 - C. Horizon C
 - D. Horizon E
500. **Which structure produces energy for the cell?**
- A. mitochondria
 - B. nucleus
 - C. golgi
 - D. endoplasmic reticulum
501. **You would probably find the most decomposers in the soil layer called**
- A. topsoil
 - B. loam
 - C. litter
 - D. bedrock
502. **Movement of soil and rocks from one place to another is called ____**
- A. weathering
 - B. humus
 - C. erosion
 - D. none of above
503. **Which layer of soil helps in purification of water?**
- A. topsoil
 - B. parent rock
 - C. humus
 - D. sub soil
504. **Under the subsoil layer is a layer of rock called ____**
- A. bedrock
 - B. this is too hard Alby
 - C. parent rock
 - D. none of the above

505. **A large chemical company disposes of its toxic chemical waste in a landfill, where the toxic chemical waste slowly leaks into the soil. Which result will most likely occur because of the toxic chemical leak into the soil?**
- A. The soil's fertility will decrease.
 - B. The soil's fertility will increase.
 - C. The soil's fertility will increase and then decrease
 - D. The soil's fertility will remain the same.
506. **This is the nutrient that is a key component of DNA - necessary for maturation and root development**
- A. Phosphorous
 - B. Potassium
 - C. All of the above
 - D. None of the above
507. **Soils have ____ layers.**
- A. 2
 - B. 1
 - C. 5
 - D. none of above
508. **How does climate affect soil formation?**
- A. Weather
 - B. Climate Reaction
 - C. Sunlight
 - D. Temperature speeds up or slows down chemical reactions
509. **Which soil would retain the most water?**
- A. loam
 - B. sand
 - C. silt
 - D. clay
510. **What is the total economic value for the Southern region?**
- A. \$48 billion
 - B. \$52 billion
 - C. \$45 billion
 - D. \$55 billion
511. **Which type of nutrients are replaced most often by fertilizer?**
- A. non-mineral
 - B. required nutrients
 - C. macronutrients
 - D. micronutrients
512. **One component of soil is decayed plant and animal remains, but the major component of soil is -**
- A. Fossil Fuels
 - B. Weathered rocks
 - C. Iron ore
 - D. Salt water
513. **The soil containing greater portion of big particles is called -**
- A. Sandy soil
 - B. Loamy soil
 - C. Clayey soil
 - D. none of above
514. **SWBAT describe how scientists classify soil.**
- A. They base them into climate, plants, and soil groups.
 - B. They base them into different soil groups
 - C. They place them into soil composition and soil type
 - D. They place them by colors.

515. **What is a synonym for soil conservation?**
- A. neglect
 - B. protection
 - C. destruction
 - D. waste
516. **Mechanical Weathering breaks down rocks through ____**
- A. Force
 - B. Chemical Reactions
 - C. Magic
 - D. Erosion
517. **What layer is the primary layer of soil where plants and animals live?**
- A. topsoil
 - B. Organic
 - C. Parent material
 - D. Bedrock
518. **How many years does soil take to form?**
- A. 5 Years
 - B. 1000 Years
 - C. 100 Years
 - D. 50 Years
519. **What is soil made of?**
- A. Soil comes from other minerals.
 - B. Soil comes from, mainly, bedrock. and is with other weathered materials.
 - C. Soil comes from rocks.
 - D. Soil is broken down rocks and is smoothed out, through a process.
520. **Returning crop stubble can improve levels of organic matter in the soil. This is when**
- A. The type of crops grown in a paddock is changed regularly in a planned order.
 - B. Fast-growing crops are grown and ploughed back into the soil before they seed.
 - C. Part of a crop not harvested for sale can be returned to the soil
 - D. The soil is not cultivated, but seeds are sown directly into the soil.
521. **Fossils are made from**
- A. plastic toys
 - B. Sedimentary rocks
 - C. Water
 - D. none of above
522. **Soil is composed of all of these natural materials EXCEPT**
- A. weathered rock
 - B. plant matter
 - C. plastic substances
 - D. animal remains
523. **You dig a small hole in the soil and the next day it rains. The hole fills with water, but does not empty even after several days of dry weather. What is the soil mostly made of?**
- A. clay
 - B. sand
 - C. humus
 - D. silt
524. **How are decomposed animals helpful to soil?**
- A. the contain valuable nutrients that become food for all kinds of organisms
 - B. they provide shade to the soil
 - C. the contain seeds to grow new life
 - D. they help speed up the rock cycle
525. **It lets most water pass through it:**
- A. Sandy Soil

- B. Loamy Soil
C. Clayey Soil
D. none of above
526. **To use wisely, and not be wasteful.**
A. decompose
B. composition
C. conserve
D. reserve
527. **Which plant structure is most involved in photosynthesis?**
A. stems
B. leaves
C. roots
D. flowers
528. **What is a resource?**
A. Anything that is used for a purpose.
B. Anything that has a purpose.
C. Anything that we use for information.
D. Anything that is renewable.
529. **At one time or another, most rocks become ____**
A. igneous
B. metamorphic
C. sedimentary
D. all the above
530. **Which of the following soil types would contain the most nutrients?**
A. Soil with many large rock particles
B. Soil with bedrock close to the surface
C. soil that drains well through it
D. soil with decomposed organic material
531. **Which type of soil do you usually expect if the community is along the seashore?**
A. Loam
- B. Clay
C. Sand
D. none of above
532. **Green manuring can improve levels of organic matter in the soil. This is when**
A. The type of crops grown in a paddock is changed regularly in a planned order.
B. Fast-growing crops are grown and ploughed back into the soil before they seed.
C. Part of a crop not harvested for sale can be returned to the soil
D. The soil is not cultivated, but seeds are sown directly into the soil.
533. **Why is soil important to living things?**
A. Forms part of the earth where animals live
B. Provides the necessary nutrients needed by plants
C. Serves as a place where people live
D. All of the above
534. **What is the land class that restricts the use of plants?**
A. Class 2
B. Class 3
C. Class 5
D. Class 7
535. **Breaking down of rocks by the action of wind and climate is called-**
A. Weathering
B. Cultivating
C. Percolation
D. none of above
536. **Rescue and Summerred are two popular varieties of apples grown in which state?**
A. California

- B. Arizona
C. Alaska
D. Colorado
537. **This rock was formed when molten rock cooled into a solid. What type of rock is it?**
A. Igneous Rock
B. Metamorphic Rock
C. Sedimentary Rock
D. none of above
538. **Primary mineral is formed from the crystallization of magma. Which of the following is Not a type of primary minerals?**
A. Quartz
B. Feldspar
C. Kaolinite
D. Hornblende
539. **which soil suitable to plant Paddy?**
A. sand soil
B. clay soil
C. g
D. none of above
540. **Conservation plowing is ____**
A. not plowing the soil before planting new crops
B. plowing the soil 8-12 inches deep to allow air and water to penetrate
C. when strips of legumes and strips of row crops are planted
D. none of above
541. **The removal of land surface by water, wind or ice is known as -**
A. Erosion
B. Retention
C. Percolation
D. none of above
542. **Which is NOT a sign of poor drainage**
A. Surface water
B. yellow leaves
C. Rushes, buttercups and other weeds
D. soil warms quickly
543. **Plants need the following except one**
A. water
B. air
C. light
D. pizza
544. **The layer of soil that contains the most organic material is which horizon?**
A. A
B. B
C. C
D. D
545. **Mrs. Davis is comparing soil for retention. Retention of water depends on-**
A. the sizes of a soil's particles
B. the amount of water the soil can hold
C. the color of the soil
D. the types of plants that will grow in it
546. **Ellen grabs a topsoil sample in her hand. She rolls it into a ball. The soil feels gritty and the ball falls apart. What property of soil is Ellen testing?**
A. color
B. texture
C. ability to support plant growth
D. water retention

547. **No tillage can improve levels of organic matter in the soil. This is when**
- A. The type of crops grown in a paddock is changed regularly in a planned order.
 - B. Fast-growing crops are grown and ploughed back into the soil before they seed.
 - C. Part of a crop not harvested for sale can be returned to the soil
 - D. The soil is not cultivated, but seeds are sown directly into the soil.
548. **If something breaks during a lab, what is the first thing you should do?**
- A. Step over it
 - B. Clean it up
 - C. Tell your neighbor
 - D. Tell Mrs. Mayo
549. **What is the annual value of agricultural exports within the western region?**
- A. \$15 billion
 - B. \$16 billion
 - C. \$14 billion
 - D. \$13 billion
550. **What is the process of rocks being broken down over time called?**
- A. Weathering
 - B. Accumulation
 - C. Condensation
 - D. Evaporation
551. **Which soil has the lowest water holding capacity?**
- A. clayey soil
 - B. sand
 - C. loamy soil
 - D. None of the above
552. **How does soil play an important role to life on Earth?**
- A. The soil helps clean our water.
 - B. Plants get nutrients from soil to grow.
 - C. Soil releases gas such as carbon dioxide into the air.
 - D. All of the above
553. **What is the repeated movement of nitrogen compounds between the atmosphere, the soil, and living organisms?**
- A. the carbon cycle
 - B. the water cycle
 - C. the nitrogen cycle
 - D. none of above
554. **Agents of weathering of**
- A. Heat
 - B. Wind
 - C. Rain
 - D. All of the above
555. **Which of the following best describes how soils are formed?**
- A. As plants and animals break down, the carbon in their bodies turns into minerals that plants eat to survive.
 - B. Over thousands of years, rocks are weathered down to small particles that mix with small amounts of decaying organic matter and living organisms.
 - C. As animals consume plants, they convert the plant matter into minerals. The feces from the animals then forms the soil.
 - D. Over thousands of years, carbon dioxide in the air converts into minerals that fall to the ground and form soil.
556. **Which of these phases of mitosis take place first?**
- A. anaphase
 - B. telophase

- C. prophase
D. metaphase
557. **Which of the following is a true statement about photosynthesis?**
- A. There are three stages in the photosynthesis process?
B. Photosynthesis is essentially evaporation of water and is similar to perspiration in humans.
C. Photosynthesis creates a net energy production of 36 units of ATP.
D. In photosynthesis, carbon dioxide and water react with light energy to form photosynthates and release oxygen as a byproduct.
558. **Which of the following has led to an estimated 70 to 90 percent increase in food production according to the World Bank?**
- A. hydroponics
B. sustainable agriculture
C. fertilizer
D. increased acreage
559. **What is one way a person can help to conserve or save energy?**
- A. Drive a big car with no passengers.
B. Cut off lights when they exit a room.
C. Brush teeth with hot water.
D. Ask to get driven to school.
560. **Which of the following is a macronutrient?**
- A. iron
B. boron
C. calcium
D. manganese
561. **Factors that determine specific soil characteristics are**
- A. climate
B. parent material
C. time and slope
D. all of the above
562. **This consists of an even mixture of different sizes of soil particles**
- A. Clay
B. Silt
C. Sand
D. Loam
563. **Which of the following soil types has the largest particles and allows water to flow through it easily?**
- A. clay
B. silt
C. loam
D. sand
564. **An example of an angiosperm is**
- A. pine tree
B. sunflower
C. moss
D. fern
565. **What is the soil that is good for planting?**
- A. Loam
B. Sand
C. Clay
D. none of above
566. **The soil horizons are different from the other based on their**
- A. Chemical and physical features.
B. Physical features mainly colour and texture.
C. Chemical features only.
D. none of above

567. **GMOs can be**
- A. plants only
 - B. animals only
 - C. plant and animal
 - D. none of these
568. **How can time affect soils?**
- A. Soils gets to old
 - B. Older soils are less weathered than younger ones
 - C. Time don't affect soils
 - D. Older soils are more weathered than younger ones
569. **Which of the following are the macronutrients that can be absorbed atmospherically?**
- A. Phosphorus, Nitrogen and Carbon
 - B. Carbon, Nitrogen, Potassium
 - C. Nitrogen, Oxygen and Carbon
 - D. Carbon, Oxygen, Hydrogen
570. **Which are the two main climatic factors responsible for soil formation?**
- A. Ocean currents and Temperature
 - B. Temperature and Rainfall
 - C. Humidity and Rainfall
 - D. None of the above
571. **Humus usually gives soil a ____ color.**
- A. Light
 - B. Medium
 - C. Dark
 - D. Purple
572. **Name the Climatic factors that can affect soil.**
- A. Temperature
 - B. Temperature and wind
 - C. Wind and rain
 - D. Temperature, wind and rain
573. **Plants and animals become part of soil when they ____**
- A. Die and Decay
 - B. Produce offspring
 - C. Grow and Develop
 - D. Take in nutrients
574. **When is wheat harvested in the state of Colorado?**
- A. Late summer to mid-fall
 - B. Early to late summer
 - C. Late fall to early winter
 - D. Late spring to early summer
575. **The average time estimate it takes for mature soils to develop**
- A. 8-10 months
 - B. 5-10 years
 - C. 50 years
 - D. thousands of years
576. **What is the layer under the Humus that provides support and nutrients to plants?**
- A. humus
 - B. bedrock
 - C. topsoil
 - D. subsoil
577. **When you hear the word "potash", what element does it refer to?**
- A. Phosphorus
 - B. Nitrogen
 - C. Potassium
 - D. Iron
578. **Which of the following is the largest particle in soil?**
- A. sand
 - B. silt
 - C. humus
 - D. clay

579. **What soil organisms like lime.**
- A. beetles
 - B. ants
 - C. earthworms
 - D. none of above
580. **Decomposition is ____**
- A. nature's way of recycling.
 - B. the breaking down of once living plants and animals.
 - C. decaying
 - D. all of the above
581. **Phosphate deficiency is seen by what coloring of the plant?**
- A. purple
 - B. bluish
 - C. brown
 - D. yellow
582. **What layer is also called the humus layer and is made up of plant remains like leaves and twigs?**
- A. Organic
 - B. Bedrock
 - C. Parent material
 - D. Bedrock
583. **An organism, especially a soil bacterium, fungus, or invertebrate, that breaks down organic material is a ____**
- A. Decomposer
 - B. Burrower
 - C. Humus source
 - D. none of above
584. **Which process allows plants to make their own food and convert it to energy?**
- A. nitrogen cycle
 - B. respiration
 - C. phototropism
 - D. photosynthesis
585. **Which type of soil is a mixture of the other types of soil?**
- A. Sand
 - B. Loam
 - C. Silt
 - D. Clay
586. **What two things determine the property of the soil created?**
- A. the particle weight and climate
 - B. the particle size and type of parent material
 - C. the particles biota and topography
 - D. the particle color and shape
587. **Which of the following is the species name for soybeans?**
- A. Zea mays
 - B. Glyxine max
 - C. Solanum tuberosum
 - D. Malus domestica
588. **Which part of the flower is the peduncle?**
- A. flower stem
 - B. leaves
 - C. roots
 - D. carrot
589. **The science of classifying and identifying organisms is:**
- A. Science
 - B. Anatomy
 - C. Taxonomy
 - D. none of above

590. **What is the solid mass of rock below soil called?**
- A. Subsoil
 - B. Bedrock
 - C. Parent material
 - D. Organic
591. **what is the solid layer of rock beneath the soil**
- A. soil
 - B. top soil
 - C. bed rock
 - D. loam
592. **A student is investigating the effect of nutrients on plant growth. For this investigation, the student needs to add a specific amount of powdered nutrients to the soil. Which tool should the student use to measure the nutrients?**
- A. barometer
 - B. beam balance
 - C. graduated cylinder
 - D. spatula
593. **The process of growing and distributing food, as well as raising animals, in and around a city.**
- A. Cooperative Farming
 - B. Urban Farming
 - C. Rural Farming
 - D. Community Farming
594. **A resistance to pesticides can cause**
- A. cancer
 - B. altered DNA
 - C. biotech foods
 - D. super bugs
595. **Why is soil so important?**
- A. Eaten by animals
 - B. Eaten by people
 - C. Keeps Earth clean
 - D. Provides food and support for plants
596. **How many primary roots are in a taproot system?**
- A. one
 - B. two
 - C. three
 - D. bajillion
597. **What does retain mean?**
- A. to hold in
 - B. to let fall out
 - C. to decompose
 - D. to dissolve
598. **The most important property for plant growth is the ability of the soil to ____ water**
- A. retain
 - B. drain
 - C. particles
 - D. smell
599. **Which is another name for a non-vascular plant?**
- A. Bryophyte
 - B. gymnosperm
 - C. angiosperm
 - D. seedless vascular plant
600. **It is important for soil to retain water to withstand**
- A. weathering
 - B. help plants to grow
 - C. keep it from being dry
 - D. none of above

601. **One property of soil is it's ____**
A. worms
B. temperature
C. name
D. texture
602. **How can a large rock become a part of soil?**
A. Break the rock into tiny pieces.
B. Bury the rock in the ground.
C. Pile the rock with other rocks.
D. Melt the rock and let it cool down.
603. **In what type of climate is Chemical weathering more rapid?**
A. wet
B. hot
C. both A & B
D. Neither A nor B
604. **Loam is clumpy, dark and has ____ , ____ , ____**
A. clay, silt, and sand
B. bark, mud, and dirt
C. plants, mud, and bark
D. none of above
605. **Big tree roots grow up to ____ layer**
A. Top soil
B. Substartum
C. Subsoil
D. Bedrock
606. **Breaking down of rocks is called ____**
A. Weathering
B. soil erosion
C. photosynthesis
D. none of above
607. **Soil give ____ to the plant.**
A. Air
B. Sunlight
C. Nutrients
D. Leaves 3 types of soil, clay and organic !
608. **Which of these IS NOT affected by soil pH?**
A. Availability of most of the essential nutrients
B. Activity of Microorganisms
C. Performance of some herbicides
D. The soil water holding capacity
609. **Most of the lime that is applied is calcium carbonate. This is finely ground limestone. Adding lime makes the soil ____ acid and ____ the pH.**
A. less raises
B. more raises
C. less lowers
D. more lowers
610. **It is fairly coarse and loose so water is able to drain through it easily.**
A. Clay
B. Sand
C. Loam
D. none of above
611. **Minerals found in the B horizon were dissolved in water and carried there by a process called**
A. oxidation
B. leaching
C. weathering
D. littering

612. **What types of crops account for 83 percent of the total United States' economic value of crops?**
- A. fruits and nuts
 - B. commercial vegetables
 - C. field and miscellaneous crops
 - D. forage crops
613. **Which structure provides protection to the plant cell and gives it its shape?**
- A. plasma membrane
 - B. vacuole
 - C. cell wall
 - D. endoplasmic reticulum
614. **What type of soil water forms as a very thin film surrounding soil particles and is generally not available to the plant? It is bound so tightly to the soil by adhesion properties that very little of it can be taken up by plant roots.**
- A. capillary
 - B. gravitational
 - C. hygroscopic
 - D. flowing
615. **The seed is made up of which of the following parts?**
- A. seed coat
 - B. cotyledon
 - C. embryo
 - D. all of the above
616. **Select the definition of soil**
- A. layers of soil with distinct physical properties in a soil profile
 - B. mixture of weathered rock, organic material, water, and air
 - C. decomposed organic matter
 - D. vertical section showing the soil horizons
617. **This term describes decayed organic matter such as dead plants and animals**
- A. topsoil
 - B. subsoil
 - C. humus
 - D. soil
618. **Which soil is formed with the smallest rock particles?**
- A. loam
 - B. sand
 - C. silt
 - D. clay
619. **In which layer of soil do plant roots grow?**
- A. humus
 - B. topsoil
 - C. subsoil
 - D. bedrock
620. **Scientific names of plants are expressed in Latin because ____**
- A. it is a dead language.
 - B. it is easy for all nationalities to pronounce.
 - C. it is an international language and was used by the early scholars to express plant names.
 - D. it is an easy language to learn.
621. **What are the three things in soil that help plants grow?**
- A. air, water, and nutrients
 - B. air, rocks, and clay
 - C. rocks, silt, and nutrients
 - D. water, silt, and clay

622. **If the amount of mineral matter is 43% and the water is 7%, how much the availability of organic matter and the soil Air present in the soil sample?**
- 25% and 25% respectively
 - 43% and 7% respectively
 - 7% and 43% respectively
 - 50% and 50% respectively
623. **What kind of soil holds the most water?**
- sandy soil
 - clay
 - rocks
 - plants
624. **This type of soil does not hold water**
- Loam
 - Sand
 - Clay
 - none of above
625. **Which of the following is a characteristic of silt?**
- Rough, gritty feeling
 - Flat/Platy shape
 - Reduces water holding capacity
 - Improves water holding capacity
626. **Summer season when mang Kanor planted his cucumber plant. a few weeks after, his plants begin to wilt and later the plants die. What type of soil moisture coefficients happened in the field?**
- Field capacity
 - Hydroscopic coefficient
 - Saturation point
 - Permanent wilting point
627. **Caterpillars are the larval form of which of the following insects?**
- moths
 - beetles
 - ladybugs
 - snails
628. **Which Method involves taking parts (leaves, stem, etc) and placing them in growing media to develop into new plants?**
- Cuttings
 - Division
 - Tissue Culture
 - Grafting
629. **Plants get the light it needs from:**
- Rain
 - Sun
 - Soil
 - Clean air and carbon dioxide
630. **Which type of soil has the smallest particles?**
- Loam
 - Clay
 - Silt
 - Sand
631. **What type of soil has the smallest particles?**
- Clay
 - Peaty
 - Silt
 - Sandy
632. **Chemical weathering occurs at a greater rate in climates that are**
- cold and wet
 - warm and wet
 - hot and dry
 - cold and dry

633. **Which of the following terms best describes a collection of many techniques currently used to genetically improve plants?**
- A. agriculture biotechnology
 - B. micro-propagation
 - C. genetic engineering
 - D. conventional genetics
634. **It is a formation of rocks through the process of heat and pressure or chemical action, generally harder than the original rocks.**
- A. Sedimentary rocks
 - B. Igneous rocks
 - C. Metamorphic rocks
 - D. Intrusive rocks
635. **Which layer of soil is home to many rodents and insects?**
- A. subsoil
 - B. humus
 - C. topsoil
 - D. farmland
636. **Calculate the gravimetric moisture content of the soil sample if it's fresh weight (FW) is 25 grams and its oven dried weight (ODW) is 20 grams.**
- A. 15%
 - B. 20%
 - C. 25%
 - D. 30%
637. **Identify the right matcha. Sand i. smaller than sand, larger than clayb. silt ii. large particlesc. clay iii. smallest particles**
- A. a - ii, b - i, c - iii
 - B. a - ii, b - iii, c - i
 - C. both are correct
 - D. none of the above
638. **The shape of a ped is called its**
- A. structure
 - B. structure type
 - C. structure grade
 - D. structure class
639. **The texture of soil depends on**
- A. How much water it can retain
 - B. Particle size
 - C. Soil color
 - D. Soil mass
640. **Which of the following is the BEST way to test a soil's ability to hold water?**
- A. adding soil to a beaker full of water and seeing if the soil sinks
 - B. pouring water through a funnel of soil and seeing how much water drips out
 - C. stirring soil into a bowl of water and seeing if the soil disappears
 - D. mixing water with a pile of soil and seeing if the water changes temperature
641. **Weathering is the process of physical and chemical alteration of rocks and minerals at or near the earth surface. Which of the following did water molecules incorporate into the structure of minerals belongs?**
- A. Chemical weathering
 - B. Physical weathering
 - C. Mechanical weathering
 - D. Cultural weathering
642. **The Humus layer in soil is also known as the ____ because it is composed of dead plant and animal remains**
- A. organic layer
 - B. decomposed layer
 - C. topsoil
 - D. subsoil

643. **The texture of soil depends mainly on**
- A. the types of plants that grow in the soil.
 - B. the size of the particles in the soil.
 - C. the color of the soil.
 - D. the number of worms in the soil.
644. **The middle layer of soil is called ____**
- A. topsoil
 - B. subsoil
 - C. bedrock
 - D. none of above
645. **This is a termed used for A, B and C horizons.**
- A. Solum
 - B. Regolith
 - C. Saprolite
 - D. Ligolith
646. **Clay is a type of soil that can be used in:**
- A. pottery.
 - B. sand boxes.
 - C. recipes.
 - D. none of above
647. **How we can prevent erosion?**
- A. build retaining walls
 - B. plant grass and shrubs
 - C. improve drainage
 - D. all of the above
648. **Name the particles that is smallest in size**
- A. Silt
 - B. Sand
 - C. Gravel
 - D. Clay
649. **The middle layer of soil in a soil profile is called the**
- A. bedrock
 - B. parent rock
 - C. subsoil
 - D. topsoil
650. **A student wants to know which soil is the best to plant tomatoes in. Which of the following experiments can he complete to figure it out?**
- A. Plant seeds in each type of soil.
 - B. Pour 200 mL of water into each soil to see how much water is retained.
 - C. Compare the color of the soil to a color chart
 - D. Wet the soil and feel the texture.
651. **The rock and mineral fragments in soil come from rock that has been**
- A. blasted
 - B. carved
 - C. weathered
 - D. chemically treated
652. **Calculate the dry density of the soil, if the bulk density is 2.0 Mg/m³ and Water content is 20%.**
- A. 0.09 Mg/m³
 - B. 2.4 Mg/m³
 - C. 0.6 Mg.m³
 - D. 1.67 Mg/m³
653. **Which of the following is a nonrenewable resource?**
- A. Animals, because they grow old and die
 - B. Plants, because there are so many kinds
 - C. Minerals, because they are replaced slowly

- D. Wind, because sometimes it doesn't blow
654. **Why are good conservation practices important for lumber companies to follow?**
- A. It adds groundwater
 - B. it increases soil erosion
 - C. it decreases soil erosion
 - D. the soil is shaded
655. **Which best describes forest soil?**
- A. More clay in the humus layer than in deeper layers
 - B. More rock fragments in the humus layer than in deeper layers
 - C. More sand-sized particles in the humus layer than in deeper layers
 - D. More organic matter in the humus layer than in deeper layers
656. **The color of the soil indicates some chemical conditions.**
- A. Dark or black color soil indicates high organic matter
 - B. Dark or black color soil indicates that the soil is high in oxides of iron
 - C. Dark or black color soil indicates that the soil is at oxidized state
 - D. All of the above
657. **Which of the following is not considered a fossil fuel?**
- A. coal
 - B. natural gas
 - C. metal
 - D. oil
658. **The layer of soil which the topsoil is found.**
- A. Horizon A
 - B. Horizon B
 - C. Horizon C
 - D. Horizon D or R
659. **Which of these is made of smallest particles of rocks, decayed matter of plants and animals?**
- A. A. Clay
 - B. B. Loam
 - C. Silt
 - D. Sand
660. **There are approximately how many different kinds of soil in the United States?**
- A. 5 types
 - B. 10 types
 - C. 1, 000 types
 - D. 100 types
661. **Plants get the minerals they need to flourish from:**
- A. Sun
 - B. Rain
 - C. Clean air and carbon dioxide
 - D. Soil
662. **Mang Kanor is a farmer, he produces many types of vegetable crops in his garden. What type of approach did Mang Kanor belongs?**
- A. Pedalogical approach
 - B. Edapological approach
 - C. Pedological approach
 - D. Edopological approach
663. **The topmost layer of land which is composed of grainy substance is called ____ .**
- A. Weathered Rock
 - B. Bedrock
 - C. Soil
 - D. All of the above

664. **The inorganic matter content of soil is formed from**
- A. inorganic material
 - B. breakdown of rocks
 - C. organic matter
 - D. rocks
665. **The strength of a ped is called its**
- A. structure
 - B. structure type
 - C. structure grade
 - D. structure class
666. **Based on the problem above, calculate the pore space of a soil if the bulk density is 1.09g/cm^3 and a particle density was 2.65g/cm^3 .**
- A. 58.90%
 - B. 60.00%
 - C. 58.00%
 - D. 59.00%
667. **Large mineral particles of soil**
- A. Sand
 - B. Silt
 - C. Clay
 - D. Horizons
668. **Small grains that contain a plant's male reproductive cells.**
- A. stamen
 - B. pollen
 - C. anther
 - D. stigma
669. **It is important for soil to hold water to**
- A. withstand weathering
 - B. erode more slowly
 - C. help plants to grow
 - D. keep it from being dry
670. **A proportion of 30% sand, 35% silt and 35% clay. Identify what type of soil is this?**
- A. Sandy soil
 - B. Clayey soil
 - C. Loamy soil
 - D. Silty soil
671. **What is the total value of crops exported from South Dakota annually?**
- A. \$1.4 billion
 - B. \$431.2 billion
 - C. \$5 billion
 - D. \$225 billion
672. **Which is NOT a type of soil?**
- A. Sand
 - B. Silt
 - C. Mud
 - D. Loam
673. **Which of the following crops are grown primarily to provide feed for livestock?**
- A. field crops
 - B. forage crops
 - C. row crops
 - D. vegetable crops
674. **The rotting dead matter in the soil is called-**
- A. Humus
 - B. Gravel
 - C. Sand
 - D. none of above
675. **well carrying out capillarity, the following should be the same EXCEPT ____**
- A. amount of soil
 - B. type of soil
 - C. diameter of tubes
 - D. size of the cotton wool

676. **The cells produced via meiosis are called:**
- A. sex cells
 - B. somatic cells
 - C. body cells
 - D. skin cells
677. **The shape and steepness of the landscape.**
- A. topography
 - B. hill
 - C. landslide
 - D. volatile
678. **The four types of soil are ____**
- A. humus, gravel, pebbles, sand
 - B. sand, silt, clay, loam
 - C. sand, rock, pebbles, granite
 - D. sand, clay, bedrock, topsoil
679. **Soil formation is the process by which soil is formed as a result of interactions over time between parent materials, climate, topography and organisms. Choose which of the following is NOT a function of organism in soil formation?**
- A. Organic matter accumulation and decomposition
 - B. Reduction of soil erosion
 - C. Structure less formation
 - D. Biochemical weathering
680. **In which state is corn often grown for silage?**
- A. Pennsylvania
 - B. Vermont
 - C. New York
 - D. New Hampshire
681. **Soil contains organic material. What is organic material?**
- A. Anything that is alive.
 - B. Anything that is dead and has never lived.
 - C. Anything living or once living
 - D. dirt
682. **'A horizon' is also called**
- A. Substratum
 - B. Bedrock
 - C. Topsoil
 - D. Subsoil
683. **____ soil is infertile.**
- A. Subsoil
 - B. Substratum
 - C. Topsoil
 - D. All of the above
684. **How many layers does a typical soil profile contain?**
- A. 4 Layer
 - B. 5 Layers
 - C. 15 Layers
 - D. 100 layers
685. **What type of soil water is used by plants?**
- A. hygroscopic
 - B. capillary
 - C. gravitational
 - D. all types of soil water
686. **____ soil has large grains.**
- A. Sandy
 - B. clay
 - C. loamy
 - D. none of above

687. **When water dissolves minerals in one layer of soil and moves them to another this is called**
- A. fertilizing
 - B. leaching
 - C. chemical erosion
 - D. decomposing
688. **How is mechanical weathering different from chemical weathering?**
- A. Chemical weathering happens over much shorter time frame than mechanical weathering.
 - B. Chemical weathering changes the chemical composition of rocks; mechanical weathering does not.
 - C. Chemical weathering occurs only in tropical climates; mechanical weathering occurs only in cool climates.
 - D. Chemical weathering occurs only in the mountains; mechanical weathering occurs only on flat land.
689. **Which type of soil feels soft and airy?**
- A. sand
 - B. loam
 - C. clay
 - D. none of above
690. **Which of the following is the most important determinant of the biodiversity and abundance of microbial communities?**
- A. Particle size
 - B. Availability of NPK
 - C. Porespace
 - D. Abundance of soil organic matter
691. **This type of soil is sticky when wet and powdery when dry.**
- A. clay
 - B. silt
 - C. sand
 - D. gravel
692. **When nutrients are taken out with soil water as it drains, it is called ____**
- A. bleaching
 - B. loaching
 - C. leaching
 - D. draining
693. **Which soil is the best for growing plants?**
- A. Sand
 - B. Loam
 - C. Silt
 - D. Clay
694. **What is a popular apple grown in West Virginia?**
- A. Gala
 - B. Red Delicious
 - C. Golden Delicious
 - D. Granny Smith
695. **Which of the following is NOT something provided by organic matter?**
- A. Greater access to nutrients
 - B. Reduces risk of erosion & compaction
 - C. Serves as an energy source of plant's food
 - D. Sequesters carbon in the soil, reducing GHG
696. **In which asexual reproduction method does the parent plant provide water and nutrients until the new plant develops roots?**
- A. Cutting
 - B. Division
 - C. Tissue Culture
 - D. Layering

697. **The soil containing same amount of large and small particles is called-**
- A. Sandy soil
 - B. Loamy soil
 - C. Clayey soil
 - D. none of above
698. **we can find rocks at ____**
- A. Mountain
 - B. Market
 - C. Mall
 - D. School
699. **What is the main purpose of microbes in the soil?**
- A. to release the nutrients in rocks
 - B. to cause disease
 - C. to feed animals
 - D. none of above
700. **This has the smallest amount of pore space for air and water**
- A. Clay
 - B. Silt
 - C. Sand
 - D. Loam
701. **The remains of something that was once alive.**
- A. pores
 - B. abiota
 - C. organic matter
 - D. decomposition
702. **Several students investigate the characteristics of soil. The students observe samples of common soils. In one sample they observe that water drains through the soil easily. When they rub the soil between their fingers, it feels rough and scratchy, and its particles feel hard. The soil the students observed is most likely -**
- A. clay
 - B. silt
 - C. loam
 - D. sand
703. **What is "relief" and how does it affect soil formation?**
- A. Topography influences sunlight hours, water runoff, temp, erosion, and organic matter buildup
 - B. Relief is a type of soil the mixes with others
 - C. Relief is something that builds up
 - D. Influence Sunlight
704. **No water stays in this when poured through.**
- A. loam
 - B. clay
 - C. gravel
 - D. topsoil
705. **How do you determine the texture of soil?**
- A. use a spring scale
 - B. observe color of particles
 - C. rub particles between fingers
 - D. taste particles

1.7 Horticulture

1. **The most expensive method of establishing a lawn is:**
 - A. plugging
 - B. seeding
 - C. sodding
 - D. sprigging
2. **The following are potential safety hazards in the greenhouse**
 - A. water hoses
 - B. fertilizer
 - C. electrical outlets
 - D. All of the above
3. **A round floral arrangement is shaped like a:**
 - A. circle
 - B. quarter moon
 - C. semicircle
 - D. triangle
4. **The roots of nearly all plants in the wild are associated with ____ which are fungi that assist in plant uptake of nutrients and water.**
 - A. mycorrhiza
 - B. nonliving organic components
 - C. arthropods
 - D. mushrooms
5. **A plant that completes its life cycle in two years**
 - A. forestry
 - B. turgid
 - C. perennial
 - D. biennial
6. **An immersion SAE that asks "why" or "how" something occurs, followed by a collection of data, and analysis of data to answer the question is:**
 - A. analysis
 - B. entrepreneurship
 - C. experimental
 - D. invention
7. **Which division of horticulture focuses on tree grown fruits?**
 - A. pomology
 - B. viticulture
 - C. floriculture
 - D. forestry
8. **The part of a net worth statement that shows all debts is:**
 - A. current liabilities
 - B. debt-to-equity ratio
 - C. inventory
 - D. total liabilities
9. **Which oak tree has dark-green large leaves with a round base and 3 to 5 lobes with bristle tips?**
 - A. Live
 - B. Pin
 - C. Southern Red
 - D. Water
10. **which of these jobs requires college education**
 - A. greenhouse employee
 - B. national park employee
 - C. farm management consulting
 - D. garden shop owner
11. **Compared to entry level jobs, professional careers usually require special licenses and:**
 - A. less education
 - B. more manual labor
 - C. more outside work
 - D. more paperwork

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12. **The type of pruning a landscape maintenance worker uses to cut old branches back to the ground is:**
- A. heading back.
 - B. renewal.
 - C. root
 - D. thinning
13. **When the plant roots or the entire plant may be cut into sections to make two or more plants from the original, what type of asexual propagation is that?**
- A. Separation
 - B. Layering
 - C. Grafting
 - D. Division
14. **The growing, harvesting, storing, processing, and marketing of FRUITS & NUTS**
- A. Floriculture
 - B. Horticulture
 - C. Pomology
 - D. Ornamental Horticulture
15. **Trevor sees a tropical plant at the mall that has thin red bands along the margin. What plant does he see?**
- A. Jade plant
 - B. Aglaonema
 - C. False aralia
 - D. Red-edged dracaena
16. **Carl keeps accurate records including amounts of items bought and sold for his SAE. What type of SAE is Carl working on?**
- A. analytical
 - B. entrepreneurship
 - C. improvement
 - D. placement
17. **Which of the following is an example of prevention of waste?**
- A. Shredding woody waste to make wood chip mulch.
 - B. Careful measuring so you don't order too much turf
 - C. Sending green waste to a recycling centre
 - D. Burning woody waste on a bonfire.
18. **On a scale drawing of Roger's house, 1/4 inch equals 1 foot actual length. What is the area of Roger's small backyard heated swimming pool if the drawing shows a measurement of 3 inches wide by 4 1/2 inches long?**
- A. 13.5 sq ft
 - B. 144 sq ft
 - C. 216 sq ft
 - D. 232 sq ft
19. **Applying the engineering design process to create a new product or service.**
- A. Experimental
 - B. Analytical
 - C. Placement
 - D. Invention
20. **Samantha is cutting the iris rhizome in sections. This method of asexual propagation in which plants are broken or cut into smaller pieces or clumps and are planted to form new plants is:**
- A. division
 - B. grafting
 - C. layering
 - D. seeding
21. **Disregarding Sales tax, how much will you save when you buy a \$ 12.00 plant that is on sale for 20 % off?**
- A. \$ 0.48

- B. \$ 1.20
C. \$ 2.40
D. \$ 3.60
22. **There has been a considerable rise in the income levels of families engaged in**
A. Livestock farming
B. animal husbandry
C. Horticulture production
D. none of above
23. **Which is the BEST inorganic growing media?**
A. Bark
B. compost
C. Peat moss
D. Vermiculite
24. **What happens when concrete gets wet?**
A. It gets slippery
B. It melts
C. Nothing happens
D. None of the above
25. **The study of plants and plant processes**
A. Entomology
B. Pomology
C. Zeriscaping
D. Botany
26. **Cuttings, layering, division, grafting, and tissue culture are all methods of what?**
A. Sexual propagation
B. Asexual propagation
C. Trisexual propagation
D. Vegetables
27. **The most effective way for animal science students to develop leadership qualities is through:**
A. participation in FFA activities
B. studying animal science
C. trips to livestock farms
D. watching videos
28. **The president calls for a voice vote on a main motion and announces that the motion passes. If a member wants to canted vote, he or she should:**
A. amend the motion
B. call for a division
C. move to adjourn
D. take the motion from the table
29. **Who is responsible for displaying and selling bedding plants?**
A. Garden center employee
B. Greenskeeper
C. Landscape designer
D. Lawn maintenance employer
30. **When was the Smith Hughes Act passed?**
A. 1955
B. 1930
C. 1917
D. 1928
31. **Which of the following was listed as a career in the field of research?**
A. Irrigation analyst
B. Landscape service
C. Quality control inspector
D. Food processing
32. **Mass flowers used in floral designs have:**
A. flowers on the end of stems
B. small sprays of flowers
C. tall spikes with florets
D. unique shapes or colors

33. **When planning a speech, the speaker should consider the purpose, the occasion, and the**
- A. Audience
 - B. Cost of clothes
 - C. Fee for speaking
 - D. Temperature
34. **Which FFA Career Development Event (CDE) will help develop knowledge and skills needed to effectively participate in a horticulture organization's business meeting?**
- A. Floriculture
 - B. Introduction to Horticulture
 - C. Nursery/Landscape
 - D. Parliamentary Procedure
35. **In North Carolina, a tree that has no leaves in the winter is:**
- A. deciduous
 - B. evergreen
 - C. herbaceous
 - D. turgid
36. **Why should you be careful when pulling weeds?**
- A. They can have thorns
 - B. They might bite
 - C. They can run away
 - D. They can be poisonous
37. **The science and practice of growing, harvesting, storing, processing and marketing tree grown fruits is:**
- A. pomology
 - B. olericulture
 - C. horticulture
 - D. Viticulture
38. **Which plant is used for its variegated green and yellowish-white leaves?**
- A. Arrowhead vine
 - B. Evergreen candytuft
 - C. Snapdragon
 - D. Zinnia
39. **Water loss from the leaf surface through evaporation is the plant process called:**
- A. absorption
 - B. photosynthesis
 - C. respiration
 - D. transpiration
40. **How many points of contact should you have when using a ladder**
- A. 4 points of contact
 - B. 3 points of contact
 - C. 2 points of contact
 - D. 1 points of contact
41. **The 1020 flat of plants normally sales for \$27.00 per flat.If the flats go on sale for 25% off the current price, what will be the sale price of the 1020 flat of plants?**
- A. \$6.75
 - B. \$20.25
 - C. \$22.00
 - D. \$26.75
42. **what should you do to prepare for a job interview**
- A. all of them
 - B. anticipate questions the interviewer will ask you
 - C. write down several things you do well
 - D. find out about the interviewing company

43. **If we offer a 20% discount to teachers in a flash sale on opening day of the Spring FFA Plant sale, how much would be teacher owe if she picked up \$115 retail priced plants from the greenhouse?**
- A. \$138.00
 - B. \$95.00
 - C. \$92.00
 - D. \$102.00
44. **Area of horticulture that involves fruit and nut production**
- A. Pomology
 - B. Olericulture
 - C. Floriculture
 - D. Horticulture
45. **Clayey textured soils are characterized by:**
- A. being loose and single grain.
 - B. having high moisture-holding capacity.
 - C. having large soil particles.
 - D. having low moisture-holding capacity.
46. **During a business meeting, Romero moved to enter a float in the homecoming parade. Before action can take place, the motion has to be:**
- A. amended
 - B. defeated
 - C. referred to a committee
 - D. seconded
47. **What type of shoes need to be worn in the greenhouse?**
- A. Sandals
 - B. Closed Toe
 - C. Flip Flops
 - D. Slides
48. **What type of work does Thomas do as a landscape nursery worker?**
- A. Design landscape plans
 - B. Install the plants
 - C. Keep financial records
 - D. Plan and design the outdoor environment
49. **one of the most natural locations for a focal point. This planting is placed in the corner of the landscape.**
- A. line planting
 - B. foundation planting
 - C. corner planting
 - D. mass planting
50. **Part of plants that holds into the soil.**
- A. roots
 - B. stem
 - C. flower
 - D. branch
51. **Carrots are an example of which part of the plant?**
- A. roots
 - B. stem
 - C. flower
 - D. leaves
52. **Sales and marketing of horticulture products in the United States generates how much revenue for the industry?**
- A. More than \$57.8 billion
 - B. More than \$55.5 billion
 - C. More than \$70 billion
 - D. More than \$75.5 billion
53. **Spotted lanternfly nymphs:**
- A. are red, black and white as early instars

- B. are red, black and white as fourth instars
- C. have gray and pink fully functional wings with black spots
- D. are black and white as fourth instars
54. **Latoya is a landscape architect. What does she do at work?**
- A. Cares for plants after they are installed
- B. constructs pools, fences and drive-ways.
- C. installs landscape plants
- D. Plans and designs the outdoor environment
55. **Michele is computerizing the production records for a local nursery operation. This is an example of what type of SAE?**
- A. Analytical
- B. entrepreneurship
- C. improvement
- D. placement
56. **Sean is working on the training agreement part of his SAE. It is signed by himself, his parent, or guardian, and his employer or supervisor. This is part of what type of SAE?**
- A. analytical
- B. entrepreneurship
- C. improvement
- D. placement
57. **Soils do not provide which of the following?**
- A. Stability
- B. Oxygen
- C. Nutrients
- D. Water
58. **Which pH reading is acid?**
- A. 3.5
- B. 7
- C. 8
- D. 9.5
59. **On a financial statement, items that can be quickly converted to cash or that will be sold within 12 months are:**
- A. current assets
- B. current liabilities
- C. equity
- D. net worth
60. **Which type of tree was the partridge sitting in, according to the popular Christmas song?**
- A. Pear
- B. Apple
- C. Oak
- D. Maple
61. **Which procedure should Thomas use to remove dead or diseased branches from his nursery plants?**
- A. Fertilize
- B. Landscape
- C. Prune
- D. Transplant
62. **The science of growing fruit**
- A. Landscape/Nursery
- B. Pomology
- C. Olericulture
- D. Floriculture
63. **Which warm-season grass grows from stolons and has medium-textured light green leaves?**
- A. Centipede
- B. Kentucky bluegrass

- C. Perennial ryegrass
D. Zoysia
64. **Sherry SAE is to identify an agricultural problem that cannot be solved by experiments. It does involve designing a plan to investigate and analyze the problem. What type of SAE is Sherry working on?**
A. Analytical
B. entrepreneurship
C. experimental
D. exploratory
65. **Two warm-season grasses that do not grow well in "high-traffic" areas are:**
A. Bermuda and Tall Fescue
B. Centipede and St. Augustine
C. Kentucky Bluegrass and Tall Fescue
D. Perennial and Annual Ryegrass
66. **What type of immersion Supervised Agricultural Experience would have an entry recorded as engaging local stakeholders?**
A. placement
B. experimental
C. service learning
D. entrepreneurship
67. **What percent is 5 of 7?**
A. 14 %
B. 35 %
C. 71 %
D. 140 %
68. **If a nursery owner has a \$250, 000 mortgage on his land and he owes Farm Credit Service \$30, 000 for this year's payment, what amount should be entered on the non-current liability line of the financial statement?**
A. \$30, 000
B. \$220, 000
C. \$250, 000
D. \$280, 000
69. **What type of work does Latoya do as a landscape architect?**
A. Cares for plants after they are installed
B. Constructs pools, fences, and drive-ways
C. Installs landscape plants
D. Plans and designs outdoor environments
70. **Elements needed by a plant to promote healthy tissue, processes, and growth.**
A. Nutrients
B. Soil
C. Water
D. Sunlight
71. **The floral design shaped like an L is:**
A. Diagonal
B. Horizontal
C. Right angle
D. Triangular
72. **Jenny needs to construct some beds to use for rooting azalea cuttings. How deep should the rooting media be?**
A. 1 inch
B. 4 inches
C. 12 inches
D. 24 inches
73. **All of the following are environmental values of horticulture except:**
A. Cleans air
B. Provides jobs
C. Prevents erosion
D. Provides shade

74. **Various numbers of taps of the gavel have different meanings, but overall the gavel is the symbol of:**
- A. authority
 - B. FFA
 - C. Voting
 - D. weakness
75. **if you were interested in creating and developing better varieties of plants, what is a good career for you**
- A. teacher
 - B. researcher
 - C. marketing specialist
 - D. stock broker
76. **Where should tools be returned?**
- A. Tool Shed
 - B. Greenhouse
 - C. Barn
 - D. Classroom
77. **The cultivation of flowers**
- A. Olericulture
 - B. Viticulture
 - C. Floriculture
 - D. Horticulture
78. **The term that comes from a Latin word that means "garden cultivation" and includes fruits, vegetables and ornamental plants is:**
- A. Agronomy
 - B. Horticulture
 - C. Floriculture
 - D. Zoology
79. **Which of the following is NOT an example of PPE?**
- A. Boots
 - B. Long Sleeve Shirt
 - C. Baseball cap
 - D. Safety Glasses
80. **Which of the following are factors that affect seed germination?**
- A. light
 - B. temperature
 - C. oxygen
 - D. all of these
81. **What occurs when sperm enters the ovule to combine with the egg?**
- A. fertilization
 - B. pollination
 - C. stem cutting
 - D. tuber
82. **What is the genus name for all maples?**
- A. Quercus
 - B. Acer
 - C. Cornus
 - D. Ilex
83. **The scientific name for an azalea is:**
- A. Cornus florida.
 - B. Ficus benjamina.
 - C. Rhododendron kiusianum.
 - D. Saintpaulia ionantha.
84. **Find the area of petunia garden that measures 5.75 ft by 3.0 ft.**
- A. 8.75 ft
 - B. 17.5 ft
 - C. 17.25 ft
 - D. 34.5 ft
85. **Candytuft is a bedding plant about 6" to 12" tall an has:**
- A. dark blue 1" fruit
 - B. orange 3" flowers
 - C. red 2" flowers
 - D. white 1" flowers

86. **Jamie has a tray of marigold seedlings she started from seed. She transplants the seedlings from the seedling flat to cell packs when the:**
- first mature roots appear
 - first true leaves are on the plant
 - plants are two weeks old
 - seedlings are 6 inches tall
87. **If the scientific name is *Ficus benjamina*, what plant is it?**
- peace lily
 - weeping fig
 - english ivy
 - impatiens
88. **Three primary nutrients**
- Magnesium, Sulfur, Potassium
 - Nitrogen, Phosphorus, Calcium
 - Nitrogen, Phosphorus, Potassium
 - Nitrogen, Calcium, Potassium
89. **The tall bedding plant with clusters of colorful flowers at the end of the stem that Sherilee planted is most likely a/an:**
- snapdragon
 - astilbe
 - evergreen candytuft.
 - Dutch iris.
90. **The planting, harvesting, storing, processing, and marketing of fruit and nut crops**
- Pomology
 - Horticulture
 - Floriculture
 - Olericulture
91. **Which medium-evergreen shrub has yellowish-green new leaves, and " to 1" long and " to " wide medium-green mature leaves?**
- Grape ivy
 - Japanese boxwood
 - Thorny elaeagnus
 - Warneckii dracena
92. **Safety Colors - The color red indicates what?**
- Danger
 - warning
 - Caution
 - Safety
93. **The pH test on a soil sample determines the:**
- acidity or alkalinity.
 - air and water movement.
 - amount of nitrogen.
 - salinity or salt content.
94. **On each side of a school parking lot, Glenn observed medium-size deciduous trees that have white flowers in spring and reddish purple leaves in autumn. They grow in a symmetrical shape with little or no pruning. These trees are:**
- border forsythias
 - bradford pears
 - dwarf burfod
 - japanese aucubas
95. **It is the process of seeds developing into new plants.**
- Germination
 - Plants
 - Plants shoot
 - Seeds
96. **Botany is the study of**
- Plants
 - Animals
 - Insects
 - Bottles

97. **stargazer and calla lilies are used in arrangements as:**
- A. line flowers
 - B. mass flowers
 - C. form flowers
 - D. filler flowers
98. **FFA helps students develop beyond class, local school chapter, and federation. What is the first level of participation above federation level?**
- A. International
 - B. National FFA Organization
 - C. North Carolina FFA Association
 - D. Region
99. **A career plan helps students by:**
- A. identifying courses and skills needed to pursue a specific profession
 - B. creating a personality profile of prospective employers
 - C. eliminating the need for job interviews
 - D. providing a resume template
100. **Installing a corner planting to draw the eyes of the viewer to that place demonstrates this design principle:**
- A. balance
 - B. focalization
 - C. rhythm and line
 - D. unity
101. **The ____ protects the undeveloped plant (embryo) against injury and from drying out.**
- A. flower
 - B. cotyledon
 - C. environment (soil)
 - D. seed coat
102. **Ribbon with a higher number is:**
- A. wider
 - B. thinner
 - C. shorter
 - D. longer
103. **if you become a greenhouse employee, what is one of your job responsibilities**
- A. aerate the soil
 - B. produce out-of season plants
 - C. work with customers
 - D. maintain the grass
104. **One big problem of vegetative propagation is excessive water loss. What is one thing you could do to prevent this from killing your cutting?**
- A. Soak the plant with heavy amounts of water each day
 - B. Remove nodes and most stem tissue
 - C. Water plant only once
 - D. Remove lower leaves of cutting
105. **The part of biology that deals with plants**
- A. annual
 - B. forestry
 - C. biennial
 - D. botany
106. **Anchoring plants, storing food and absorbing water are functions of plant:**
- A. Flowers
 - B. Fruits
 - C. Leaves
 - D. Roots
107. **Applying half of the material in one direction and the other half at a 90 degree angle from the first pass is used when:**
- A. Sodding
 - B. Sprigging

- C. Sowing
D. Plugging
108. **What is not a type of soil?**
A. Sand
B. Dirt
C. Loam
D. Clay
109. **Soil for container plant production should be:**
A. porous
B. clayey
C. nonporous
D. sandy
110. **a plant that completes its life cycle in one year**
A. annual
B. deciduous
C. biennial
D. horticulture
111. **Carl keeps accurate records including amounts of items bought and sold for his SAE. What type of SAE is this?**
A. analytical
B. entrepreneurship
C. improvement
D. placement
112. **Of these materials, which is the best for use in an organic growing media?**
A. bark
B. perlite
C. Styrofoam beads
D. vermiculite
113. **When planning a vertical garden what is most important to pay attention to?**
A. Sun
B. water
C. soil
D. temperature
114. **From the time a seed is planted until the time that a seed is produced is known as**
A. Growth Cycle
B. Dormancy
C. Life Cycle
D. Plant Cycle
115. **Using a socket pot to hold a potted plant is what type of production?**
A. Pot-in-pot
B. Container
C. Field-grown
D. Greenhouse
116. **An immersion SAE that is a chance to use the knowledge & skills gained from school to address real needs in the world is:**
A. research
B. service based learning
C. school based enterprise
D. placement/internship
117. **A soil test report will include:**
A. cost of fertilizer
B. cost of lime
C. recommended planting time
D. suggested fertilizer rate
118. **What type of nursery structure uses manure or hay as a source of heat?**
A. Shade house
B. Hotbed
C. PNP
D. cold frame

119. **Which grass is used on golf greens and requires fans to keep the greens cool?**
- A. tall fescue
 - B. bentgrass
 - C. St. Augustine
 - D. Bahia
120. **Which of the following is a common indoor plant?**
- A. Fern
 - B. Corn
 - C. Hibiscus
 - D. Sorghum
121. **When choosing a career in horticulture you should ____**
- A. select a job with variety
 - B. select a job with opportunity for promotion
 - C. consider the job responsibilities
 - D. all of them
122. **Michele is computerizing the production records for a local nursery operation. This is an example of what type of Supervised Agricultural Experience?**
- A. analytical
 - B. entrepreneurship
 - C. improvement
 - D. placement
123. **What is the volume of a cubic plant container that sides all equal 5" in length?**
- A. 15
 - B. 25
 - C. 125
 - D. 150
124. **What type of immersion Supervised Agricultural Experience involves volunteering to teach floral design at a local assisted-living facility?**
- A. Invention
 - B. Experimental
 - C. Service Learning
 - D. School based Enterprise
125. **The male part of the flower is the ____**
- A. petal
 - B. sepal
 - C. pistil
 - D. stamen
126. **The by-product of photosynthesis is:**
- A. carbon dioxide
 - B. nitrogen
 - C. oxygen
 - D. water
127. **Which pH reading is alkaline?**
- A. 1
 - B. 3
 - C. 6
 - D. 9
128. **____ is the science that deals with the microscopic structure of plant or animal tissues.**
- A. Histology
 - B. Morphology
 - C. Cytology
 - D. Hypocotyl
129. **A deciduous tree:**
- A. Dies each year in the winter
 - B. Drops its functional leaves in the dormant season
 - C. Keeps its functional leaves in the dormant season
 - D. Remains green all year

130. **The purpose of a speech that convinces people to believe or to do something is to:**
- A. Entertain
 - B. Inform
 - C. Introduce
 - D. Persuade
131. ***The area of horticulture that involves the planting, harvesting, storing, processing and marketing of fruit and nut crops.**
- A. Floriculture
 - B. Landscape
 - C. pomology
 - D. Olericulture
132. **Which medium-evergreen shrub has yellowish-green new leaves, and 1/2" to 1" long and 1/2" to 1/4" wide medium-green mature leaves?**
- A. Grape Ivy
 - B. Japanese Boxwood
 - C. Thorny Elaeagnus
 - D. Warneckii Dracena
133. **Which is most directly related to reducing the carbon footprint?**
- A. Garden center salesperson
 - B. Golf course superintendent
 - C. Green industry employee
 - D. Park ranger
134. **A tropical plant with a glossy, green, scalloped leaf that has a long-lasting flower is most likely a/an:**
- A. Christmas cactus.
 - B. wax plant.
 - C. emerald-ripple peperomia.
 - D. kalanchoe.
135. **A tree with the scientific name *Acer palmatum*. What is the plant's common name?**
- A. Japanese Maple
 - B. Sugar Maple
 - C. Red Maple
 - D. Red Oak
136. **What type of immersion SAE benefits an organization, group, or individuals other than the FFA chapter?**
- A. placement
 - B. service learning
 - C. entrepreneurship
 - D. school-based enterprise
137. **A soil test report with a pH of 7.2 is:**
- A. extremely acid
 - B. extremely alkaline
 - C. mildly acid
 - D. mildly alkaline
138. **The "balance" landscape design principle is demonstrated by:**
- A. Installing equal plants on each side of a door.
 - B. Installing foundation plantings and privacy fences
 - C. Installing plants to block a view.
 - D. none of above
139. **Chilling seeds to stimulate winter conditions before germination is known as:**
- A. scarification
 - B. stratification
 - C. budding
 - D. amending
140. **How can Tracie reduce stress on greenhouse-produced seedlings at transplanting time before removing them from the greenhouse?**

- A. fertilizer seedlings more
B. harden off the seedlings
C. mist the seedlings often
D. water the seedlings more
141. ____ **conducts food and metabolites from the leaves to the stem, flowers, roots, and storage organs.**
A. Phloem
B. Xylem
C. Parenchyma Tissue
D. Cork tissue
142. **The main product of photosynthesis is:**
A. carbon dioxide
B. nitrogen
C. sugar
D. water
143. **Which is MOST interested in reducing the carbon footprint**
A. Garden center salesperson
B. Golf course attendant
C. Green industry employee
D. Park ranger
144. **Which shrub has a red-to-pink feathery flower 1" in length?**
A. Chinese fringe
B. Nellie R. Stevens
C. Gold mop
D. Japanese andromeda
145. **producing and using plants to make outdoor environments more appealing**
A. landscape horticulture
B. pomology
C. horticulture
D. floriculture
146. **Who would be responsible for displaying and selling bedding plants?**
A. Garden center employee
B. Greenskeeper
C. Landscape designer
D. Lawn maintenance employer
147. **Which of the following is NOT a branch of horticulture?**
A. Agriculture
B. Pomology
C. Floriculture
D. Olericulture
148. **form flowers used in floral designs have:**
A. florets on tall spikes
B. flowers on end of stems
C. small sprays of flowers
D. unique shapes or colors
149. **When flowers look too big for containers, the design principle the floral designer failed to follow is:**
A. balance
B. focal point
C. repetition
D. Rhythm
150. **Increasing the appearance, comfort and value of your home is which type of SAE?**
A. analytical
B. entrepreneurship
C. improvement
D. experimental
151. **The seed endosperm provides**
A. protection to the embryo
B. food for the embryo
C. an attractant
D. pollination for the flower

152. **Because roses produce flowers on wood produced the same growing season, the plants should be pruned in the:**
- A. early spring.
 - B. early summer.
 - C. late spring.
 - D. late summer.
153. **The perennial flowering vine Amy planted in her garden is most likely a:**
- A. Japanese pachysandra.
 - B. clematis.
 - C. Gerber daisy.
 - D. coneflower.
154. **Joey knows butterflies cause little or no damage to his plants. The basis for his opinion is most likely because butterflies have what type of mouthparts?**
- A. Chewing
 - B. Piercing and sucking
 - C. Rasping and sucking
 - D. Siphoning
155. **Marigolds and other warm-season plants grow best during:**
- A. early spring
 - B. midsummer
 - C. late fall
 - D. midwinter
156. **Which is a flowering plant that has flowers from 3" to 6" in diameter?**
- A. American arborvitae
 - B. Evergreen candytuft
 - C. Peony
 - D. Sycamore
157. **Which cool-season grass is used on golf greens but requires cooling fans on the greens during the hot weather of summer in the South?**
- A. Tall Fescue
 - B. Bentgrass
 - C. St. Augustine
 - D. Bahia grass
158. **Small, deciduous tree with heart-shaped leaves, three- to five-inch long brown bean-type pods, and pink-purple colored seasonal flowers is an:**
- A. ajuga
 - B. japanese maple
 - C. eastern redbud
 - D. red oak
159. **Which part of a foundational SAE would a student be fulfilling by finding three scholarship applications that would support education towards his/her future career?**
- A. employability skills for college and career readiness
 - B. personal financial planning and management
 - C. agricultural literacy
 - D. workplace safety
160. **Suzy has weeds that are hard to control in her lawn. These are examples of:**
- A. Debris
 - B. Inert material
 - C. viable seeds
 - D. Noxious weeds
161. **This type of SAE deals with planning, implementing, operating and assuming financial risks in an agricultural business or farming activity.**
- A. Placement
 - B. Entrepreneurship
 - C. Improvement
 - D. Supplementary

162. **What is the percentage of solid soil particles in an ideal soil?**
- A. 5
 - B. 20
 - C. 50
 - D. 90
163. ***The production and use of plants to beautify the environment.**
- A. nursery/ landscape
 - B. floriculture
 - C. pomology
 - D. none of above
164. **An example of a foundational Supervised Agricultural Experience activity in the career exploration and planning area is:**
- A. creating a personal budget and tracking monthly financial activity.
 - B. converting a career plan into a career portfolio to use in interviews
 - C. making a list of 10 personal strategies that enhance verbal and non-verbal communication.
 - D. making a poster with commonly used tools in a chosen career and the proper safety procedures associated with each.
165. **The science of vegetable growing, dealing with the culture of non-woody plants for food. It is the production of plants for use of their edible parts**
- A. Landscape/Nursery
 - B. Pomology
 - C. Olericulture
 - D. Floriculture
166. **What are the 4 main sections of horticulture?**
- A. Floriculture, Pomology, Landscape, and Olericulture
 - B. Gardening, Harvesting, Growing, and Composting
 - C. Seed production, Sowiculture, Optomology, and Lanscaping
 - D. Apology, Orangeculture, Nursery, and Garden Cultivation
167. **India is ____ largest producer of fruits and vegetables**
- A. Second
 - B. First
 - C. Fifth
 - D. none of above
168. **Which of the following does not make up soil texture?**
- A. clay
 - B. organic matter
 - C. sand
 - D. silt
169. **What do deciduous plants do during the dormant season?**
- A. they die
 - B. they lose their leaves
 - C. retain their leaves
 - D. all of the above
170. **What type bud is on the side of a stem?**
- A. Apical
 - B. Lateral
 - C. Lentical
 - D. Terminal
171. **What does MSDS stand for?**
- A. Material Safety Data Sheet
 - B. Modern Safety Day Special
 - C. Medium Small Data Stuff
 - D. Made Something Doing Something

172. **The most desirable soil for non-container outdoor plant production is:**
- A. clay
 - B. loam
 - C. sand
 - D. silt
173. **Filler flowers used in floral designs have:**
- A. flowers on the stems ends
 - B. small sprays of flowers
 - C. tall spikes with florets
 - D. unique colors or shapes
174. **What is the best explanation as to why vegetable production has steadily grown?**
- A. Consumer demand has increased
 - B. Fewer families are growing their own
 - C. More land is under cultivation
 - D. Vegetables are more profitable
175. **The young plant surrounded by a protective covering is called a ____**
- A. seed
 - B. stigma
 - C. style
 - D. sepal
176. **The horticulture industry allows producers to market their products:**
- A. Only during holidays
 - B. Only during summer months
 - C. Globally
 - D. Only in North Carolina
177. **Which of the following is NOT included as a plant?**
- A. Lawns
 - B. Plastic
 - C. Bushes
 - D. Gardens
178. **Because trees live many years, they are:**
- A. annuals
 - B. biennials
 - C. perennials
 - D. semiannuals
179. **A place that specializes in starting plants, shrubs and ornamental trees which can be transplanted to landscape areas is called a**
- A. Nursery
 - B. Vineyard
 - C. Orchard
 - D. Farm
180. **What does NRCS stand for?**
- A. National Rural Conservatory Service
 - B. Natural Resource Conservation Service
 - C. North Richmond Conservation Service
 - D. National Reservation of Conserving Soil
181. **Fruits, nuts and vegetable production are classified as which of the following benefits of the horticulture industry?**
- A. Aesthetic value
 - B. Recreational value
 - C. Food production
 - D. Therapeutic value
182. **What is the first degree in FFA for high school members?**
- A. Greenhand
 - B. American
 - C. State
 - D. Discovery
183. **Which is part of a stem?**
- A. Anther
 - B. Filament
 - C. Leaf scar
 - D. Root cap

184. **the coarseness or fineness of the materials in a landscape**
- A. line
 - B. texture
 - C. balance
 - D. form
185. **Coffee, Rubber, Tea crops falls under ____**
- A. Cash Crop
 - B. Medicinal Crop
 - C. Plantation Crops
 - D. Spice Crops
186. **Which shrub has dark green 1" needle-like foliage?**
- A. Compacta holly
 - B. Indian hawthorn
 - C. Japanese yew
 - D. French hydrangea
187. **____ is the science and practice of growing, processing and marketing fruits, vegetables, and ornamental plants.**
- A. Science
 - B. Horticulture
 - C. Marketing
 - D. Agriculture
188. **Which of the following is NOT provided by lawns?**
- A. Aesthetics
 - B. Windbreak
 - C. Environmental value
 - D. Resource protection
189. **What surrounds the stomates and regulates the open and close of the stomates?**
- A. Guard Cells
 - B. Epidermis
 - C. Apex
 - D. Chloroplasts
190. **Which country is one of the world's top producers of fruits and nuts?**
- A. Canada
 - B. Australia
 - C. United Arab Emirates
 - D. United States
191. **Which division of horticulture focuses on flowering plants?**
- A. pomology
 - B. landscape and nursery
 - C. floriculture
 - D. olericulture
192. **This type of SAE involves identifying an agricultural problem that cannot be solved by experiments and designing a plan to investigate and analyze the problem.**
- A. Experimental
 - B. Analytical
 - C. Improvement
 - D. Supplementary
193. **What is landscape horticulture?**
- A. The design, installation, and maintenance of landscapes
 - B. The science of growing grass for sports play, lawns, and roadways
 - C. Cultivation of vegetables and herbs for the home or market
 - D. Fruit trees that are grown for display in a yard.
194. **Shears should not go into your ____**
- A. Pocket
 - B. Bag
 - C. House
 - D. All of the above

195. **Use the ____ tool for the job.**
- A. Correct
 - B. Biggest
 - C. Smallest
 - D. none of above
196. **Suzy needs to help the designer get an idea of the general layout of the property. Which plan does she need?**
- A. construction diagram
 - B. Contractor plan.
 - C. final plan
 - D. functional diagram
197. **You can tell where a terminal bud was located by it's:**
- A. lateral buds
 - B. leaf scar
 - C. bud scale scars
 - D. xylem
198. **The low temperature for the day in Alberta is -7 degrees. Later the same day the temperature reaches a high of 21 degrees. How many degrees did the temperature change during the day?**
- A. 32
 - B. 28
 - C. 21
 - D. 14
199. **Seedlings that receive too little light will have:**
- A. Brighter Flower colors
 - B. Dark green leaves
 - C. Short thick stems
 - D. Tall Slender Stems
200. **what is division**
- A. Separation of a plant into an individual clump making sure it has a growth point leaf and root
 - B. None of the above
 - C. All of these
 - D. A Separation of the two that makes it one
201. **Which country was the first to use the tradition of a Christmas tree?**
- A. England
 - B. Germany
 - C. United States
 - D. Netherlands
202. **When cleaning the greenhouse, you should**
- A. Sweep all the dirt and debris from the floor in your area
 - B. Make sure the tables are organized
 - C. Put all materials back in their designated area
 - D. All of the above
203. **Which demonstrates the "proportion" landscape design principle?**
- A. Install foundation plantings.
 - B. install privacy fence
 - C. maintain size relationship between plants
 - D. Repeat colors, construction materials, or plants.
204. **gallons per minute. Measures amount of water that flows through an irrigation system**
- A. GMP
 - B. GPH
 - C. PSI
 - D. none of above

205. **As part of regular biological processes, a deciduous tree:**
- A. dies each year in the winter.
 - B. keeps its functional leaves in the dormant season.
 - C. drops its functional leaves in the dormant season.
 - D. remains green all year.
206. **Who funds the Cooperative Extension Service in each state?**
- A. The federal government
 - B. State government
 - C. Local community organizations/charities
 - D. The land grant university in each state
207. **What is the best running-type grass for Malik to plant in a shady area of his lawn?**
- A. Tall fescue
 - B. Bent grass
 - C. Creeping red fescue
 - D. Bahia grass
208. **While the pH of most commercial horticulture soilless mixes is neutral, the pH of bark, peat moss, and sphagnum moss is:**
- A. acid
 - B. alkaline
 - C. basic
 - D. neutral
209. **What is grafting?**
- A. Growing plant from seed
 - B. Growing one part of a plant on a part of another plant
 - C. Dividing a plant
 - D. Growing from a bulb
210. **The science and art of growing plants for use and beauty; an important segment of the agriculture industry**
- A. Horticulture
 - B. Olericulture
 - C. Landscape Hort
 - D. none of above
211. **The term for an undeveloped shoot or flower is:**
- A. Stamen
 - B. Bud
 - C. Node
 - D. Margin
212. **When compared to the amount of oxygen produced in the process of photosynthesis, the amount of oxygen used in plant respiration is:**
- A. about the same
 - B. less
 - C. more
 - D. much more
213. **When indicating or measuring pH, the lower the pH number, the:**
- A. less acid
 - B. more acidic
 - C. more alkaline
 - D. more neutral
214. **Modified leaves that show color**
- A. Evergreen
 - B. Annual
 - C. Needles
 - D. Bracts
215. **Which of the following describes aesthetics?**
- A. curative
 - B. efficiency

- C. beauty
D. hobby
216. **Forcing roots to develop while the plant is still connected to the parent plant prior to separation is known as:**
A. cutting
B. grafting
C. layering
D. budding
217. **Content and composition of the speech are determined:**
A. after the speech is given
B. before the speech is given
C. during the questioning time
D. during the oral speech
218. **A shallow circular transparent dish with flat lid, that has wet paper and solution containing the seeds that should be grown.**
A. Rag-doll method
B. Seed box method
C. Petri dish method
D. Floating in water method
219. **Each year the horticulture industry puts over 25 billion dollars in the economy at this level"**
A. County
B. State
C. National
D. World
220. **Victoria is careful to study the temperature, moisture, and seed viability for the plants she plans to grow. These are factors that affect:**
A. germination rates.
B. hardwood cuttings
C. softwood cuttings
D. tree grafts
221. **Hazards associated with specific chemicals are described in the**
A. Material Safety Data Sheets
B. OSHA Pathogen Standard
C. Hazard Communication Standard
D. OPIM Guidelines
222. **What are the three parts of agriculture education?**
A. Classroom/Lab, CDE, SAE
B. Classroom/Lab, FFA, SAE
C. Classroom, SAE, Agriscience
D. Lab, Classroom, FFA
223. **Which of the following is NOT an environmental benefit of plants?**
A. Provide shade
B. Increase erosion
C. Provide cooler temperatures
D. Filter air
224. **What should be the shape of the bottom of a hole used to plant a bare-root tree?**
A. Dome
B. Flat
C. Pointed
D. Square
225. **Suzy is attending an FFA meeting and hears the gavel tap twice. This signifies:**
A. that the meeting is adjourned
B. that the meeting was called to order
C. for everyone to be quiet and orderly
D. for everyone to be seated
226. **The leadership quality that causes animal science workers to be willing to proceed under difficult conditions is:**
A. Courage
B. Integrity
C. Public Speaking
D. Tact

227. **The component of a high school agriculture education program that provides a part-time job for students to gain work experience to help in career planning is**
- Adult education
 - Classroom instruction
 - FFA
 - Supervised Agricultural Experience
228. **Which stepladder type should be avoided when working near electrical power sources? -**
- Wood
 - Aluminum
 - Fiberglass
 - All types
229. **_____ is the seed's capability of growing and developing.**
- seed viability
 - seed stability
 - seed probability
 - germination rates
230. **Olericulture deals with growing**
- Vegetables
 - Fruits
 - Nuts
 - Hibiscus
231. **In the mountains, Naomi saw an evergreen tree with flat needles 1/2 inch long with 2 white bands on the underside of the needle. What tree did she see?**
- Canadian hemlock
 - Chinese dogwood
 - Ginkgo
 - Zelkova
232. **The term horticulture literally means**
- The culture of a garden
 - The storing of plants
 - The selling of plants
 - none of above
233. **What is interveinal chlorosis?**
- Yellowing of leaves between green veins
 - Darkening of leaves between green veins
 - Small developing leaves
 - Removal of veins in a leaf
234. **Trees that keep their functional leaves throughout the year are called:**
- Auxins
 - Deciduous
 - Evergreen
 - Inhibitors
235. **Hydroponics means growing food in _____?**
- Water
 - Specially formulated soil
 - Special chemicals
 - none of above
236. **Which large evergreen shrub has white, pink, or red 1 " - 2" flowers in October and November?**
- Cape jasmine
 - Chinese dogwood
 - Japanese yew
 - Sasanqua camellia
237. **the culture of plants for food, comfort, and beauty**
- horticulture
 - pomology
 - floriculture
 - olericulture

238. **the continuity of a landscape. Geometric shapes and curved patterns allow the observer's eye to move around the landscape**
- A. form
 - B. line
 - C. texture
 - D. balance
239. **What can Sammy do to cause his nursery plants to grow more compact?**
- A. Lime
 - B. Prune
 - C. Transplant
 - D. Water
240. **Becky needs to cut some rose stems from her bed of roses. What tool should she use?**
- A. Axe
 - B. Chain saw
 - C. Pole pruner
 - D. Pruning shears
241. **What is the FFA Motto?**
- A. Learning to Do, Doing to Learn, Earning to Live, Living to Serve
 - B. Learning to Work, Working to Earn, Earning to Live, Living to Breathe
 - C. Making Our Mark, One Dream at a Time, Living the Life, It was Meant to Be
 - D. Leading to Educate, Following to Learn, Competing in Contests, Winning is All
242. **Which describes the loss in value of machinery or buildings due to age, use, or change in market demands?**
- A. assets
 - B. depreciation
 - C. inventory
 - D. profit
243. **Which is the best inorganic growing media?**
- A. bark
 - B. compost
 - C. peat moss
 - D. vermiculite
244. **How many areas of the horticulture industry are there?**
- A. 1
 - B. 5
 - C. 3
 - D. 7
245. **Which of the following is not an economic value of horticulture?**
- A. Increases values of homes through landscaping
 - B. Cleans air
 - C. Provides jobs
 - D. Produces food
246. **Lee is making a hedge row of hollies. He uses the heading back pruning method to:**
- A. Cut off branches at same height
 - B. cut roots prior to transplanting
 - C. open up a tree or shrub
 - D. remove old branches to rejuvenate
247. **The component of the horticulture instructional program that gives students an opportunity to explore interests and gain work experience is the:**
- A. classroom
 - B. FFA
 - C. state FFA convention.
 - D. Supervised Agriculture Experience.
248. **What is the study of grapes?**
- A. Viticulture
 - B. Forestry

- C. Olericulture
D. Pomology
249. **Annual plants complete their life cycle in**
A. one year
B. two years
C. three years
D. ten years
250. **Mark takes some soil samples from his lawn and some from a field where he grows vegetables. Compared to the field samples, his samples from the lawn should be taken:**
A. about 2 inches deeper.
B. about 8 inches deeper.
C. about 2 inches shallower.
D. at the same depth
251. **When is baby's breath added to a floral design**
A. first
B. second
C. third
D. last
252. **Which of the following is NOT a way garden plants impact the environment?**
A. Cleaning the air
B. Absorbing carbon dioxide
C. Releasing fragrance
D. Eliminating pests
253. **The growing, harvesting, storing, processing, and marketing of VEGETABLES**
A. Floriculture
B. Olericulture
C. Pomology
D. Landscape
254. **About 74% of all U.S. households participated in lawn and garden activities in 2016.**
A. Yes
B. No
C. Maybe
D. none of above
255. **If a net worth statement shows that a business has \$5, 000 cash on hand, \$20, 000 in a checking account, and land valued at \$600, 000, which amount should be entered on the total assets line of a net worth statement?**
A. \$25, 000
B. \$575, 000
C. \$600, 000
D. \$625, 000
256. **The scientific study of plants.**
A. Pomology
B. Botany
C. xylem
D. horticulture
257. **a garden center employee usually works in a ____ environment**
A. unpleasant
B. unclean
C. clean
D. volatile
258. **What does a "3 point contact" mean when climbing on the ladder?**
A. using two hands and a foot
B. using two feet and a hand
C. using two hands and a foot or two feet and a hand
D. Using two feet and an elbow

259. **Small deciduous trees that flower all summer and into early fall with a flower color that may be white, pink, red, or purple. What is the plant?**
- A. Crepe myrtle
 - B. Evergreen euonymus
 - C. Prayer plant
 - D. Red maple
260. **Filler flowers are used in floral designs to:**
- A. add mass and draw attention
 - B. draw attention to the focal point
 - C. establish height, width, and outline
 - D. fill empty spaces and hide ties
261. **What is the primary reason for pruning nursery plants?**
- A. Produce desired shape
 - B. Rejuvenate plant
 - C. Remove dead flowers
 - D. Thin branches
262. **Soil does NOT provide which of the following?**
- A. Stability
 - B. Oxygen
 - C. Nutrients
 - D. Water
263. **Sara wants to own and operate a landscape business that handles everything from the first contact with the client through design and construction as well as long-term care and maintenance. which type of business will she have?**
- A. Design-build firm
 - B. landscape installer
 - C. landscape maintenance
 - D. subcont
264. **___ have no separate subcellular units. Examples include bacteria and blue-green algae.**
- A. organelle
 - B. eukaryotic
 - C. cytoplasm
 - D. prokaryotic
265. **Horticulture includes the production of plants for food, comfort and**
- A. Technology
 - B. Beauty
 - C. Style
 - D. none of above
266. **when plants rest and grow very little**
- A. floriculture
 - B. deciduous
 - C. agronomy
 - D. dormant
267. **The traditional nursery method of growing plants in the field is what type of production?**
- A. Pot-in-pot
 - B. Container
 - C. Field-grown
 - D. Cold frame
268. **Which branches involve the principles of horticulture and placement of plants?**
- A. Floriculture, Landscape Design
 - B. Landscape Design, Interiorscaping
 - C. Interiorscaping, Floriculture
 - D. Floriculture, Agronomy
269. **Horticulture is the cultivation of which of the following?**
- A. Gardens
 - B. Golf Courses
 - C. Forests
 - D. Deserts

270. **device that ensures water from irrigation system does not return to main water source**
- A. remote control valves
 - B. contoler
 - C. back flow preventer
 - D. cycle
271. **Plants that take three or more years to complete their life cycle are:**
- A. annuals
 - B. biennials
 - C. millenniums
 - D. perennials
272. **If Jessica is preparing a summary presentation on her research with organic and inorganic fertilizers, her SAE project would be identified as a/an:**
- A. school-based enterprise
 - B. entrepreneurship
 - C. experimental
 - D. placement
273. **Which SAE record heading would be used if you have an entrepreneurship SAE?**
- A. Hypothesis
 - B. Review of literature
 - C. training agreement
 - D. type of enterprise
274. **___ is the reaction between a compound and water to form a more soluble product.**
- A. chemical reaction
 - B. hydration
 - C. degradation
 - D. hydrolysis
275. **If a turfgrass farm has total assets of \$250, 000 and total liabilities of \$150, 000, which number should be recorded on the net worth line of the financial statement?**
- A. \$50, 000
 - B. \$100, 000
 - C. \$150, 000
 - D. \$400, 000
276. **Should you eat while outside on the farm?**
- A. Yes
 - B. No
 - C. Maybe
 - D. none of above
277. **The beginning of the food chain for all living things on Earth is caused by the biological process known as:**
- A. Root hairs
 - B. Structure
 - C. Leaves
 - D. Photosynthesis
278. **The green color of leaves is caused by the:**
- A. Chloroplasts
 - B. Epidermis
 - C. Guard cells
 - D. Margin
279. **Victor joins a new variety of pecan tree to some rootstock he has grown from seeds. Which propagation method does he use?**
- A. grafting
 - B. hardwood cuttings
 - C. layering
 - D. softwood cuttings
280. **If Dave has a bag of fescue that has a seed germination rate of 80%, he can expect:**

- A. 20 out of 80 seeds to germinate.
 B. 80 out of 100 seeds to germinate.
 C. all seeds to germinate.
 D. 20 out of 100 seeds to germinate.
281. **The cultivation of flowers, which includes the production, distribution, and processing of flowering and foliage plants**
 A. Floriculture
 B. Horticulture
 C. Design by flower
 D. none of above
282. **Medicinal horticulture is NOT used for which of the following?**
 A. Veterinary practices
 B. Therapeutic practice
 C. Acupuncture
 D. Preventative medicine
283. **Horticulture is a science, as well as, an art of production, utilisation and improvement of horticultural crops, such as fruits and vegetables, spices and condiments, ornamental, plantation, medicinal and aromatic plants.**
 A. False
 B. True
 C. somewhat true
 D. others
284. **pounds per square inch. Measures the force at which water moves in an irrigation system**
 A. GPM
 B. GPH
 C. PSI
 D. none of above
285. **When applying the waste hierarchy to workplace waste disposal, which is the first and top option?**
 A. Prepare for re-use
 B. Recycle
 C. Prevention
 D. Disposal
286. **The last step in the landscape project development is:**
 A. bill the customer for the work done
 B. Determine the need or objective.
 C. develop a maintenance schedule
 D. Select maintenance contractor.
287. **Which grass should a homeowner in western NC plant if the grass needs to tolerate high use or wear?**
 A. Centipede grass
 B. Kentucky Bluegrass
 C. St. Augustine grass
 D. Zoysia grass
288. **After a student has evaluated his or her own interests and has narrowed the field of jobs, then the student should:**
 A. apply for a job
 B. complete a job application
 C. go for a job interview
 D. study the requirements of the job
289. **Nursery plants that are produced by cuttings are propagated:**
 A. sexually.
 B. by seed.
 C. asexually.
 D. by amending.
290. **What warm-season grass, produced by stolons and rhizomes, grows best in the eastern and coastal Piedmont areas?**

- A. Red Fescue
 - B. Tall Fescue
 - C. Zoysia
 - D. Kentucky bluegrass
291. **The part of the plant that transports water and nutrients up from the roots to the stems and leaves is called the:**
- A. phloem
 - B. cambia
 - C. xylem
 - D. bark
292. **What is an annual plant?**
- A. a plant that completes its life cycle in 1 year
 - B. a plant that completes its life cycle in 2 years
 - C. a plant that lives more than 2 years
 - D. a plant that starts flowering in the second year
293. **The inner part of an ovary that contains an egg is the:**
- A. ovule
 - B. seed
 - C. stamen
 - D. none of above
294. **Pollination is the process by which the pollen grains are transferred from the ____ to the ____**
- A. anther ____ ovary
 - B. anther ____ stigma
 - C. stigma ____ ovary
 - D. stigma ____ filament
295. **Propagating nursery plants using a scion and rootstock is known as:**
- A. cutting
 - B. grafting
 - C. layering
 - D. budding
296. **What type of work does Aaron do as he works in landscape maintenance?**
- A. Cares for the landscape
 - B. Designs, installs, and contracts the landscape
 - C. Designs landscape plans
 - D. Installs landscape plants
297. **Snapdragons and Foxglove are used in arrangements as:**
- A. line flowers
 - B. mass flowers
 - C. form flowers
 - D. filler forms
298. **Which of the following is NOT a type of pesticide?**
- A. Insecticide
 - B. Herbicide
 - C. Fungicide
 - D. Plant Propagation
299. **Victoria spent 2 hours on Saturday pruning a fruit tree although her SAE program is producing bedding plants in her own greenhouse. In which section of the SAE record would she enter the fruit tree pruning activity?**
- A. analytical
 - B. experimental
 - C. placement
 - D. supplementary
300. **Safety is the responsibility of?**
- A. Everyone
 - B. Owner of the facility
 - C. Veterinary Technician
 - D. Veterinarian

301. **Celery is an example of that plant what?**
- A. roots
 - B. Stem
 - C. Flower
 - D. none of above
302. **Plants remove which of the following from the atmosphere?**
- A. Oxygen
 - B. Helium
 - C. Carbon dioxide
 - D. Argon
303. **A place where plants are propagated and grown to usable size**
- A. Conservatorium
 - B. Nursery
 - C. National Park
 - D. Apiary
304. **Which of the following is NOT correct about asexual reproduction?**
- A. Less time required to produce a plant
 - B. Plants are genetically identical
 - C. Less expensive
 - D. Only way for some plants to reproduce
305. **The green pigment in vegetables is called what?**
- A. Flavones
 - B. Carotene
 - C. Chlorophyll
 - D. Anthocyanin
306. **A 10-6-4 formula of fertilizer to feed azaleas was purchased at the co-op. If the consumer bought a 100# of this fertilizer, how many pounds of Nitrogen would the consumer have purchased?**
- A. 10
 - B. 6
 - C. 4
 - D. 20
307. **An immersion SAE that requires records of items bought & sold is:**
- A. research
 - B. ownership/entrepreneurship
 - C. service based learning
 - D. placement/internship
308. **Which of the following is NOT a benefit of trees?**
- A. Pollution reduction
 - B. Shade
 - C. Color
 - D. Shelter
309. **low volume emission device that waters the entire hydrozone and operates similarly to a conventional spray head but at much lower flow rates**
- A. sprinkles
 - B. drip irrigation
 - C. emitter
 - D. micro spray
310. **Advantages of Asexual vegetative propagation**
- A. All off spring are true to type (identical to the parent) and produce.
 - B. True
 - C. Mostly smaller seeds
 - D. False
311. **Compared to other layers of a typical soil profile, the amount of organic matter in the O horizon is:**
- A. about the same
 - B. less
 - C. more
 - D. none

312. **Line flowers used in floral designs have:**
- A. florets blooming on tall spikes
 - B. flowers on the end of stems
 - C. small sprays of flowers
 - D. unique colors or shapes
313. **The first step in the landscape project maintenance process is:**
- A. bill customer for work done
 - B. Determine the need or objective.
 - C. purchase lawnmower
 - D. subcontract pest control
314. **Why is a wilted plant limp?**
- A. it does not have enough moisture
 - B. filled with moisture
 - C. it got knocked over
 - D. a certain breed of bird likes to stand on it
315. **The landscape designer who uses plants with only a few different colors or shapes is demonstrating the landscape design principle of:**
- A. balance
 - B. focalization
 - C. proportion
 - D. simplicity
316. **Which type of garden saves the MOST space for the most plants?**
- A. Vertical
 - B. Flat Bed
 - C. Container
 - D. Raised bed
317. **what job in horticulture prepares seedbeds for the replanting of forests**
- A. nursery employee
 - B. garden center employee
 - C. maintenance employee
 - D. golf course employee
318. **Watering is more important for container-grown plants than field-grown plants because:**
- A. spacing the pots in the nursery would have to increase.
 - B. plants would have to be hand watered.
 - C. roots can go no deeper or spread any wider than the container.
 - D. plants can only live in a container for one year.
319. **Janet uses stem cuttings to propagate her prize-winning azaleas. What is the best time of day for Janet to take the cuttings from her azaleas?**
- A. early evening
 - B. early morning
 - C. late afternoon
 - D. mid-day
320. **The plow reminds agricultural students and FFA members of what important principle?**
- A. Common agricultural interest of all students
 - B. Importance of knowledge to success
 - C. National scope of the FFA
 - D. Value of hard work
321. **An example of a pomology career would be ____**
- A. Lawn care
 - B. Florist
 - C. veterinarian
 - D. Pecan Farmer

322. **FFA helps students develop leadership beyond the class, local school chapter, and federation. What is the first level of participation above the federation level? Hint: Our federation is the Randolph Federation & is made up of all middle/high schools in Randolph County, NC.**
- A. International
 - B. National FFA Organization
 - C. North Carolina FFA Association
 - D. Region (West Central is our Region)
323. **A cool-season grass that has coarse textured medium green leaves and has bunch-type growth is:**
- A. Bermuda grass
 - B. Centipede grass
 - C. St. Augustine grass
 - D. tall fescue.
324. **The female part of the flower is called what?**
- A. Pistil
 - B. Stamen
 - C. Petal
 - D. none of above
325. **The growing of flowers or foliage plants**
- A. Floriculture
 - B. Landscape horticulture
 - C. Floral production
 - D. Olericulture
326. **This type of SAE involves planning and conducting an agricultural experiment using the scientific process or scientific method.**
- A. Entrepreneurship
 - B. Improvement
 - C. Exploratory
 - D. Experimental
327. **What happens to plants during their dormant stage?**
- A. die
 - B. grow abundantly
 - C. they start flowering
 - D. none of the above
328. **The primary function of plant seeds is:**
- A. Absorption
 - B. Photosynthesis
 - C. Plant identification
 - D. Sexual reproduction
329. **looses leaves during dormant season**
- A. deciduous
 - B. turgid
 - C. evergreen
 - D. wilted
330. **Fusarium crown and root rot inoculum can come from:**
- A. The air
 - B. The seed
 - C. A and B
 - D. A and C
331. **Tamicka uses a commercial blend of horticulture soil because she can depend on the pH of the product being:**
- A. acidic
 - B. alkaline
 - C. basic
 - D. neutral
332. **What are you allowed to cut with pruners?**
- A. Branches or leaves on a plant
 - B. Clothing
 - C. Fingers
 - D. Hair

333. **Even though the parent material my have been present for many centuries, soils without well-developed horizons are classified as ____**
- A. Undeveloped Soils
 - B. Old Soils
 - C. Incomplete Soils
 - D. Young Soils
334. **What is a deficiency symptom?**
- A. Gives dark green color
 - B. Necessary to develop cell proteins
 - C. Slow and Dwarfed Plant Growth
 - D. Older leaves are purplish
335. **The process by which the surface of the earth gets worn down is described by which of the following?**
- A. Run-off
 - B. Phytoremediation
 - C. Decay
 - D. erosion
336. **Floriculture is the area of ornamental horticulture that deals with the**
- A. Designing plans for landscapes and turf areas
 - B. Production and use flowers potted plants and annual bedding plants
 - C. Production of vegetables, fruits and nuts for retail sales
 - D. Producing plants for culinary uses
337. **A speech about Hereford cattle given at the annual meeting of purebred Angus cattle breeders would be inappropriate because of the:**
- A. audience
 - B. length of speech
 - C. location
 - D. speaker
338. **The chemical formula for photosynthesis is:**
- A. $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$.
 - B. $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O}$.
 - C. $\text{NH}_4\text{NO}_3 + 4\text{H}_2\text{O} \rightarrow 6\text{NaCl} + 4\text{H}_2\text{O}$.
 - D. $4\text{P}_2\text{O}_5 + 6\text{CO}_2 \rightarrow 6\text{H}_2\text{O} + 4\text{CaCO}_3$.
339. **Pores in the leaf's surface are ____**
- A. stomata
 - B. stomates
 - C. stigmas
 - D. Both a and b
340. **A plant with large green leaf-like growth that looked similar to a long vein down the middle. It had many little leaf-like structures called fronds, but it had no flowers or seeds. This plant is a:**
- A. catawba rhododendron.
 - B. geranium.
 - C. weeping fig.
 - D. boston fern.
341. **Seth has a few plants left to sale, he has 4 red Gerbera daisies left and 5 yellow Gerbera daisies left. If Seth just randomly grabs one of these plants off the table to give away, what is the probability that Seth grabs a red Gerbera Daisy?**
- A. 1/5
 - B. 1/4
 - C. 4/9
 - D. 4/5
342. **The first step in making a floral arrangement is to:**
- A. Attach foam to container
 - B. cut flower stems
 - C. establish outline
 - D. select design shape

343. **Which of the following is responsible for recycling raw materials?**
- A. Air
 - B. Plants
 - C. Soil
 - D. Animal life
344. **Which SAE Record heading would be used by Hannah if she has an entrepreneurship type Supervised Agricultural Experience?**
- A. Hypothesis
 - B. Review of literature
 - C. Training agreement
 - D. Type of enterprise
345. **The cultivation of trees and shrubs.**
- A. Arboriculture
 - B. Agriculture
 - C. Horticulture
 - D. Floriculture
346. **The purpose of a speech that gives knowledge or information to the audience is to:**
- A. Entertain
 - B. Express anger
 - C. inform
 - D. persuade
347. **What year was FFA established?**
- A. 1928
 - B. 1929
 - C. 1930
 - D. 1954
348. **If no more than one half the total leaf surface should be removed and the recommended mowing height is 1", grass should be mowed before its height reaches:**
- A. 1"
 - B. 2"
 - C. 3"
 - D. 4"
349. **What Brian learns while serving as FFA Chapter Secretary could be used after graduation in horticulture organizations to:**
- A. count money.
 - B. prepare budgets.
 - C. preside over meetings.
 - D. write minutes of meetings.
350. **The related products and services sector of the horticulture industry provides how many jobs?**
- A. More than 100, 000
 - B. More than 10 million
 - C. More than 250, 000
 - D. More than 750, 000
351. **Plant roots take water from the soil through the process of:**
- A. absorption
 - B. photosynthesis
 - C. reproduction
 - D. respiration
352. **The part of the horticulture industry most associated with growing, maintaining, and processing grapes is:**
- A. floriculture
 - B. olericulture
 - C. pomology
 - D. viticulture
353. **Which is a characteristic of sandy textured soils?**
- A. High moisture-holding capacity
 - B. High nutrient-holding capacity
 - C. Low moisture-holding capacity
 - D. Small packed together soil particles

354. **What is a greenhouse?**
- A. A house made of glass and the glass traps heat from sunlight.
 - B. A house that stays warm inside.
 - C. A house that people grow plants, fruits, and vegetables in.
 - D. All of the above
355. **Which of the following is provided by landscape horticulture?**
- A. Tax benefits
 - B. Aesthetics
 - C. Medicine
 - D. Fruits
356. **Which comes from a Latin word meaning "garden cultivation" and includes vegetables, fruits and ornamental plants?**
- A. agronomy
 - B. forestry
 - C. horticulture
 - D. zoology
357. **What type of business does Sara have if her landscape company handles everything from the first contact with the client through design and construction as well as long-term care and maintenance?**
- A. Design-build firm
 - B. Landscape installer
 - C. Landscape maintenance
 - D. Subcontractor firm
358. **Which is an example of a physical hazard?**
- A. Spilled disinfectant
 - B. Bodily fluids
 - C. Animal bite
 - D. Chemical fumes
359. **The term horticulture is derived from two Latin words hortus, meaning 'garden', and — meaning 'cultivation'**
- A. futura
 - B. cultura
 - C. cultivar
 - D. flora
360. **what is an Asexual (Vegatative) Propagation**
- A. growing plants from vegetation part at existing
 - B. Growing form the inside of your house in a plant bowl
 - C. growing from the ouside in the back yard in a graden
 - D. in rows of plants so tat they will grow together
361. **secondary line of an irrigation system that has water pressure only when valve is open**
- A. lateral line
 - B. main line
 - C. cycle
 - D. zone
362. **The leadership trait that gives the energy to do a job and the inspiration to encourage others is called:**
- A. courage
 - B. enthusiasm
 - C. honesty
 - D. tact
363. **Are you allowed to borrow tools to take home?**
- A. Yes
 - B. No
 - C. Maybe
 - D. none of above

364. **Which branch primarily focuses on plant and soil interaction?**
- A. Floriculture
 - B. Horticulture
 - C. Agronomy
 - D. Turfgrass Management
365. **What should you do immediately after applying chemicals or fertilizer?**
- A. Wash your hands
 - B. Eat Lunch
 - C. Water your plants
 - D. none of above
366. **Which officer position is stationed by the flag?**
- A. President
 - B. Vice-President
 - C. Reporter
 - D. Treasurer
367. **What is a turgid?**
- A. a type of soil to use on plants
 - B. a type of flower
 - C. a plants that doesn't have enough moisture
 - D. a plant that is swollen or filled with moisture
368. **If a plant is turgid, it is:**
- A. Drowned and dropping
 - B. Pale green or yellow
 - C. Swollen with moisture
 - D. Wilted from lack of water
369. **An aquarium or botanical garden is an example of:**
- A. Horticultural Therapy
 - B. Zoological Horticulture
 - C. Plant Propagation Environment
 - D. Landscape and Nursery
370. **A of pH 7.0 is:**
- A. Acidic
 - B. Basic
 - C. Neutral
 - D. Odd
371. **An example of an Entrepreneurship SAE is ____**
- A. Cutting grass
 - B. Observing a greenhouse manager
 - C. Planting a garden
 - D. Starting your own produce company
372. **Caroline moved to sell candy to raise money for scholarships. Adam wants to sell flowers. To change the motion, Adam moves to:**
- A. adjourn
 - B. amend
 - C. appeal
 - D. argue
373. **What does GMO stand for?**
- A. Genetically Modified Organism
 - B. Generically Modified Organism
 - C. Genetic Magnification Organization
 - D. Global Microbe Organization
374. **A plant that has spikes with florets and is used to make floral arrangements is a/an:**
- A. arrowhead vine.
 - B. gladiolus.
 - C. parlor palm.
 - D. zinnia.
375. **What can Vijay add to his soilless mix at planting to add weight and keep his gallon nursery stock from blowing over?**
- A. bark
 - B. peat moss
 - C. perlite
 - D. vermiculite

376. **the growing, harvesting, storing, processing, and marketing of fruits and nuts**
- A. Ornamental horticulture
 - B. Olericulture
 - C. Pomology
 - D. Floriculture
377. **When were girls allowed to join the FFA?**
- A. 1989
 - B. 1969
 - C. 1999
 - D. 2009
378. **The culture of flowers**
- A. Landscape Horticulture
 - B. Pomology
 - C. Olericulture
 - D. Floriculture
379. **Pedro likes to add compost to condition his soil. What is compost?**
- A. Clayey Soil
 - B. Decayed organic matter
 - C. Vermiculite
 - D. Volcanic Rock
380. **If a 10" azalea pot takes up 1 square foot of bench space in a greenhouse, how many Geraniums planted in 10" Azalea pots be placed on a bench that measures 6 ft wide and 17 ft long?**
- A. 23
 - B. 46
 - C. 102
 - D. 204
381. **The scientific name is made up what?**
- A. Genus and Species
 - B. Genus and Phenotype
 - C. First and Last Name
 - D. Species and Family
382. **The process of moving synthesized and absorbed food and nutrients within the plant is:**
- A. photosynthesis
 - B. respiration
 - C. reproduction
 - D. translocation
383. **Candytuft is a bedding plant about 6" to 12" inches tall and has:**
- A. dark blue 1" fruit.
 - B. orange 3" flowers.
 - C. red 2" flowers.
 - D. white 1" flowers.
384. **Chris is interested in producing the most new plants in the shortest time period. What is the best propagation method for him to accomplish his goal?**
- A. budding
 - B. cutting
 - C. grafting
 - D. tissue culture
385. **Which division of horticulture focuses on grasses, annuals, shrubs, and trees.**
- A. pomology
 - B. landscape and nursery
 - C. floriculture
 - D. olericulture
386. **When Robert makes a floral design, which flowers does he use to make the outline of the arrangement?**
- A. Bird of paradise
 - B. Chrysanthemums
 - C. Gladiolus
 - D. Orchids

387. **Which most likely represents the FFA goal to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success?**
- A. colors
 - B. mission statement
 - C. motto
 - D. official dress
388. **An SAE that identifies a problem that cannot be solved by experiments, and involves designing a plan to investigate and analyze the problem is:**
- A. analytical
 - B. entrepreneurship
 - C. experimental
 - D. exploratory
389. **The part of the plant which grows in the ground.**
- A. leaf
 - B. stem
 - C. root
 - D. seed
390. **Which type of landscape plan will likely be changed several times to include clients wishes**
- A. bubble diagram
 - B. construction plan
 - C. final plan
 - D. preliminary design
391. **Fertilizers that dissolve in water and are applied as a liquid solution are**
- A. Inorganic
 - B. Organic
 - C. Soluble
 - D. Insoluble
392. **Monocot stems have the xylem and phloem:**
- A. In small bundles scattered throughout the stem
 - B. In ten layers or ten circles
 - C. On each side of the cambium layer
 - D. On the outside of the stem
393. **The upper portion of a graft is known as what?**
- A. Understock
 - B. Upperstock
 - C. Rootstock
 - D. Scion
394. **Spotted lanternfly can be accidentally moved to other locations as:**
- A. egg masses
 - B. nymphs
 - C. adults
 - D. all of the above
395. **An installation of plants decorating the inside of a building**
- A. Landscaping
 - B. Interiorscaping
 - C. Interior Design
 - D. Land Design
396. **___ is the growing, harvesting, storing, processing, and marketing of vegetables.**
- A. Horticulture
 - B. Olericulture
 - C. Pomology
 - D. Landscape Horticulture
397. **The main expense for using plugging to establish a lawn is:**
- A. Fertilizer
 - B. labor
 - C. pesticides
 - D. seeds

398. **What is a plant that is used in the landscape for their colorful greenery or leaves?**
- A. Herbaceous Perennial
 - B. Biennial
 - C. Tree
 - D. Foliage Plant
399. **If a bedding plant grower's inventory shows plants worth \$40, 000, supplies worth \$1, 000, and land valued at \$200, 000, what amount should be entered on the non-depreciable inventory line of the financial statement?**
- A. \$400
 - B. \$41, 000
 - C. \$200, 000
 - D. \$241, 000
400. **Andrew selects a unique azalea plant. The propagation method that he uses to rapidly increase the number of identical plants is:**
- A. grafting
 - B. leaf cuttings
 - C. seeding
 - D. tissue culture
401. **___ rock is generally unconsolidated and composed of rock fragments that have been transported and deposited by wind, water, or glaciers. Limestone, sandstone, and shale are examples**
- A. metamorphic
 - B. igneous
 - C. bedrock
 - D. sedimentary
402. **What is the release of water vapor from leaves of plants to cool plants down?**
- A. Transpiration
 - B. Photosynthesis
 - C. Respiration
 - D. Translocation
403. **A soil report will include:**
- A. cost of lime
 - B. suggested fertilizer rate
 - C. cost of fertilizer
 - D. recommend planting time
404. **Which of the following special purpose footwear should you wear to avoid a buildup of static electricity?**
- A. Metatarsal guards
 - B. Safety toe shoes
 - C. Electrically conductive shoes
 - D. Foundry shoes
405. **When is it best to Harvest Peaches?**
- A. May - September
 - B. July Only
 - C. May only
 - D. August- March
406. **What area of horticulture is concerned with providing commercial source of plants?**
- A. Nursery Production
 - B. Pomology
 - C. Turf grass management
 - D. Floriculture
407. **What type of immersion SAE is Monica completing by working at a local garden center?**
- A. analytical
 - B. placement
 - C. service learning
 - D. entrepreneurship

408. **Specimen plants generally are**
- A. used alone
 - B. usually expensive
 - C. often large trees/floor plants
 - D. All of the above
409. **MOST cool-season grasses grow very little during the hottest months of summer. What is this condition called?**
- A. dead
 - B. dormant
 - C. turgid
 - D. wilted
410. **Rory is studying the pH scale. What number represents neutral?**
- A. 3
 - B. 5
 - C. 7
 - D. 9
411. **Which soil particles are the smallest?**
- A. clay
 - B. rocks
 - C. sand
 - D. silt
412. **The most important step prior to using any pesticide is to ____**
- A. Mix it correctly
 - B. Read the label directions
 - C. Determine the formulation
 - D. Properly store it
413. **Who created the naming system for plants?**
- A. Gregor Mendel
 - B. Carl Linnaeus
 - C. Bill Nye The Science Guy
 - D. Albert Einstein
414. **The goal in grafting is to unite two plants**
- A. so they grow as one
 - B. in a physical union so that they grow together
 - C. all of these choices
 - D. none of above
415. **After fertilization, this part of a plant eventually becomes the fruit.**
- A. seed
 - B. ovary
 - C. sepal
 - D. petal
416. **Which type of employee cares for the land area and plants surrounding a business, industry, church or school?**
- A. Garden Center
 - B. Golf Course
 - C. Grounds Maintenance
 - D. Nursery
417. **Plants with which root system are easier to transplant?**
- A. fibrous
 - B. long
 - C. sharp
 - D. tap
418. **The terms annual, biennial, and perennial describe plant:**
- A. leaf loss
 - B. life cycle
 - C. production practices
 - D. leaf type
419. **Who wrote the FFA Creed?**
- A. E.M. Tiffany
 - B. Henry Groseclose
 - C. John Deere
 - D. George Washington

420. **Which of the following is NOT considered a recreational value for plants?**
- A. Crop production
 - B. sports
 - C. gardening
 - D. lawns
421. **What term describes money or services that a person owes?**
- A. Assets
 - B. Inventory
 - C. Liabilities
 - D. Net worth
422. **An indoor flowering plant grown for hanging baskets and pots that has red, white, or pink flowers and green leaves with long petioles, and is popular for Mother's Day is a:**
- A. Boston Fern
 - B. Geranium
 - C. Hosta
 - D. Impatiens
423. **Which crop accounted for the greatest percentage of total nursery production sales?**
- A. Broadleaf evergreens
 - B. Deciduous shrubs
 - C. Deciduous trees
 - D. Ground covers
424. **Which of the following is responsible for the creation of large-scale windbreaks?**
- A. trees
 - B. grass
 - C. bushes
 - D. flowers
425. **Nursery production involves:**
- A. Maintaining golf courses
 - B. Growing fruit
 - C. Growing plants for a sale
 - D. Seeding turf
426. **Plants that complete their life cycles in two years are:**
- A. annuals
 - B. biennials
 - C. minerals
 - D. perennials
427. **Information technology plays a significant role in achieving**
- A. Poverty
 - B. education
 - C. sustainable development
 - D. none of above
428. **Aside from economic value, what is a value associated with ornamental horticulture?**
- A. High-quality food
 - B. Pharmaceutical proteins
 - C. Psychological well-being
 - D. Superior lumber
429. **Mandy and Jordan bought some of the same plants from Lowe's. Mandy paid \$5.85 for three coleus and 1 verbena. Jordan paid \$4.65 for 2 coleus and 1 verbena. What is the cost of one coleus?**
- A. \$.75
 - B. \$ 2.25
 - C. \$ 1.80
 - D. \$ 1.20
430. **The plant tissue that carries food DOWNWARD from the leaves to the rest of the plant is the ____**

- A. Phloem
 - B. Stomata
 - C. Chlorophyll
 - D. Xylem
431. **Filler flowers are used in floral design for:**
- A. add mass and draw attention
 - B. draw attention to focal point
 - C. establish height, width, and hide ties
 - D. fill empty spaces and hide ties
432. **When a nursery plant reaches the maximum recommended size for its container, it should be transplanted to a larger container to prevent the plant from:**
- A. becoming pot-bound
 - B. becoming too compact
 - C. growing too tall
 - D. growing too wide
433. **Which of the following is NOT provided to plants by soil?**
- A. stability
 - B. nutrients
 - C. run-off
 - D. oxygen
434. **Something tangible of value that a person owns is:**
- A. a liability.
 - B. Ban asset.
 - C. equity
 - D. .net worth
435. **In which part of a foundational SAE would Avery create a risk assessment of a sweet potato packing facility?**
- A. personal finance management and planning
 - B. career exploration and planning
 - C. agricultural literacy
 - D. workplace safety
436. **Pedro adds compost to condition his soil. What is compost?**
- A. clayey soil
 - B. decayed organic matter
 - C. vermiculite
 - D. volcanic rock
437. **The major energy input for the earth comes from the ____**
- A. Moon
 - B. Equator
 - C. Sun
 - D. Clouds
438. **Which large deciduous tree has 6" long and 4" wide medium-green leaves with 3 to 5 pointed lobes and 1" - 1 " fuzzy round fruit?**
- A. Clematis
 - B. Snapdragon
 - C. London plane tree
 - D. Wintergreen barberry
439. **the even distribution of materials on opposite sides of a central axis**
- A. balance
 - B. texture
 - C. focalization
 - D. texture
440. **Field-grown, container, and pot-in-pot plants should be watered in the morning for:**
- A. maximum absorption.
 - B. minimum absorption.
 - C. more water pressure.
 - D. less water pressure.

441. **Governments can predict areas of food insecurity and vulnerability using**
- A. Poverty
 - B. Employment level
 - C. Software tools
 - D. none of above
442. **The leaves on a plume asparagus fern are:**
- A. dark green and feather-like.
 - B. shaped like a sword.
 - C. shaped like palm trees.
 - D. variegated in green and white.
443. **A cool-season grass that has coarse-textured, medium-green leaves and bunch-type growth is:**
- A. bermuda grass
 - B. centipede grass
 - C. St. Augustine grass
 - D. tall fescue
444. **A part-time job at a florist is which type of SAE?**
- A. analytical
 - B. improvement
 - C. placement
 - D. supplementary
445. **Emily has a business that installs landscape timbers around raised bed gardens for home owners. Mrs Jones hires Emily's company to edge her beds that measure 16 ft long and 4 ft wide. How many feet of landscape timbers does Emily need to buy for this job?**
- A. 16
 - B. 20
 - C. 32
 - D. 40
446. **A person who cultivates and markets sod is a:**
- A. Field crop technician
 - B. Nursery manager
 - C. Turfgrass producer
 - D. greenhouse manager
447. **The government agency that is responsible for enforcing safety regulations in the workplace is**
- A. CDC
 - B. FAA
 - C. DOT
 - D. OSHA
448. **Angela has a part time job working after school and on Saturdays at a local florist. In what type of SAE is Angela participating in**
- A. analytical
 - B. improvement
 - C. placement
 - D. supplementary
449. **The science most associated with the study of plants grown for food or beautification is:**
- A. agronomy
 - B. forestry
 - C. horticulture
 - D. physics
450. **If a fertilizer formula contains the following label, 24 - 8 - 16. How many pounds of Potassium are we applying if we broadcast 500 pounds on our pasture?**
- A. 120
 - B. 40
 - C. 80
 - D. 240

451. **The use of horticultural plants and methods as therapeutic tools with disabled and disadvantaged people**
- A. Allopathy
 - B. Homeopathy
 - C. Horticultural Therapy
 - D. Naturopathy
452. **Which is an itemized list of things owned by a business?**
- A. Equity
 - B. Inventory
 - C. Liabilities
 - D. Net worth
453. **What is a bedding plant that has large 6" colorful flowers?**
- A. Zinnia
 - B. Japanese pachysandra
 - C. Madagascar periwinkle
 - D. Kalanchoe
454. **What is the texture of soils that have about equal parts of sand, clay, and silt?**
- A. clayey
 - B. loamy
 - C. sandy
 - D. silty
455. **The "rhythm and line" landscape design principle is illustrated by:**
- A. foundation plantings
 - B. Repeating colors.
 - C. Repeating plant species.
 - D. none of above
456. **A plant that completes its life cycle in two years is a(n):**
- A. annual
 - B. biennial
 - C. perennial
 - D. none of above
457. **Which is an application of the landscape design principle of unity?**
- A. Install foundation plantings and privacy hedge
 - B. install same amount of plants on each side of door
 - C. maintain size relationship between plants and house
 - D. raise decks, patios, and porches to door level
458. **A plant that lives more than two years**
- A. zoology
 - B. botany
 - C. perennial
 - D. forestry
459. **#22 gauge wire is used for wiring:**
- A. boutonnières
 - B. corsages
 - C. bows
 - D. heavy flowers
460. **If you work for the Cincinnati Reds mowing grass, what branch of agriculture are you participating in?**
- A. Turfgrass Management
 - B. Ornamental Horticulture
 - C. Landscape and Nursery
 - D. Floriculture
461. **Plants produce which of the following?**
- A. neon
 - B. sulfur
 - C. carbon dioxide
 - D. oxygen

462. *** The area of horticulture associated with producing, transporting and using cut flowers, potted plants, and annual bedding plants.**
- A. Floriculture
 - B. Forestry
 - C. Landscape
 - D. Design
463. **Angela has a part-time job working after school and on Saturdays at a local florist. In what type of Supervised Agricultural Experience is Angela participating?**
- A. analytical
 - B. improvement
 - C. placement
 - D. supplementary
464. **If a high school student's career objective is to be a greenhouse operator, an activity he/she might include in his/her foundational SAE to obtain employability skills would be:**
- A. taking a small-engine short course at the community college
 - B. finding a mentor in the welding industry
 - C. obtaining a hunter safety certification
 - D. testing for a pesticide license
465. **Christy enjoys mound layering her prize-winning azalea. Which is true of her mound layering technique?**
- A. The plant has to be dug and separated first.
 - B. A trench has to be dug for each stem being propagated.
 - C. Only one inch of bark has to be removed.
 - D. Soil has to be heaped up around the plant.
466. **The Purpose of the SAE is to ____**
- A. volunteer in your community.
 - B. gain work experience and life skills in agriculture.
 - C. pass this class.
 - D. communicate to people.
467. **What should you do first if you get cut or injured?**
- A. Put a band aid on it
 - B. Wash your hands
 - C. Tell the teacher
 - D. None of these
468. **Jennifer is using Rootone on her poinsettia cuttings. She knows that an advantage of using hormones on cuttings is that they:**
- A. aid in photosynthesis.
 - B. decrease water needs
 - C. keep the leaves from dropping.
 - D. spread root development
469. **Jodi examines a preliminary design and a functional design. She observes that the amount of detail in the functional diagram is:**
- A. more
 - B. less
 - C. same
 - D. none of above
470. **Finish the Statement: If there is a rule, there is a ____**
- A. answer
 - B. reason
 - C. problem
 - D. issue
471. **Field-grown, container, and PNP plants should be watered in the morning for:**
- A. maximum absorption

- B. minimum absorption
C. more water pressure
D. less water pressure
472. **Which branch primarily contains walkways, ponds, outdoor accents such as fountains, and color coordination in planting to abide with the center of focus?**
A. Interiorscaping
B. Landscape Design
C. Horticulture
D. Agronomy
473. **___ refers to roots arising from an unusual place; roots growing from stems or leaves**
A. adverse
B. secondary
C. phloem
D. adventitious
474. **Mortgages that are not due this year are entered on a financial statement as:**
A. current assets
B. current liabilities
C. non-current assets
D. non-current liabilities
475. **A warm-season grass that grows from both stolons and rhizomes and has fine-textured leaves that vary in color from light green to dark green is:**
A. Annual Ryegrass
B. Bermuda
C. Kentucky Bluegrass
D. Tall Fescue
476. **___ are stems that grow horizontally above ground.**
A. Bulbs
B. Rhizomes
C. Tubers
D. Stolons
477. **Which is the most likely effect of adding perlite to the growing media?**
A. decreases drainage
B. increases drainage
C. increases weight
D. makes media acidic
478. **Sue wears a white collared shirt, black shoes, black skirt, FFA scarf, and FFA jacket zipped halfway to the top. What component of official FFA dress is she missing?**
A. Her black shoes should be brown.
B. Her jacket should be zipped to the top.
C. Her shirt should be blue rather than white.
D. Her skirt should be navy blue.
479. **What is a potential source of danger called?**
A. Accident
B. Hazard
C. Right - to - know
D. Materials safety data sheet
480. **During the plant sale we hit a time where we don't sell as many plants. We sell 90 on day 15, 79 on day 16. If we sell on 65 on day 17, what is our average plants sold during the stretch of day 15 thru day 17?**
A. 68
B. 78
C. 88
D. 117

481. **Insects with this type of mouthpart are most likely to damage plants by carrying and spreading diseases.**
- A. Chewing
 - B. Sponging
 - C. Piercing and sucking
 - D. Siphoning
482. **Renee needs about 1, 000 petunia plants. If the seed germination rate is 50%, what is the minimum number of seeds she should sow?**
- A. 50
 - B. 1, 000
 - C. 1, 200
 - D. 2, 000
483. **Which one is responsible for maintaining fairway and greens turf as well as sand traps and irrigation?**
- A. florist
 - B. garden center employee
 - C. golf course employee
 - D. greenhouse worker
484. **What is the genus name for all box-woods?**
- A. buxus
 - B. ilex
 - C. acer
 - D. quercus
485. **The germination rate represents the number of plants that:**
- A. are planted from seed
 - B. begin growth after being started from seed
 - C. are in the greenhouse
 - D. are seeds incased in the fruit of a plant
486. **The area of horticulture that includes growing and harvesting flowers and making and selling flower arrangements is:**
- A. agronomy
 - B. floriculture
 - C. forestry
 - D. pomology
487. **Foliages such as sprengeri ferns are used in floral designs to:**
- A. add mass
 - B. create outline
 - C. establish width
 - D. fill empty spaces
488. **creates particular beauty or interest in the landscape. It draws the observer's eye to a particular plant or area. It may be one or a mass of plantings or hardscapes.**
- A. foundation planting
 - B. line planting
 - C. mass planting
 - D. accent planting
489. **Which of the following is NOT an environmental factor impacted by plants?**
- A. animal life
 - B. tides
 - C. run-off
 - D. erosion
490. **What is the highest FFA degree one can receive?**
- A. State FFA Degree
 - B. Chapter FFA Degree
 - C. Greenhand FFA Degree
 - D. American FFA Degree
491. **How long does a perennial plant typically live?**
- A. 1 year

- B. 6 months
C. 2 years
D. beyond 2 years
492. **William examines a landscape functional diagram and a final landscape plan. He notices that the amount of detail in the final landscape plan is:**
A. less
B. more
C. same
D. none of above
493. **Alex believes that Jessica is discussion a motion that is not debatable. To correct this mistake, Alex should:**
A. call for a division
B. move to adjourn
C. move to amend
D. rise to a point of order
494. **Computerizing production records for a local nursery operation is which type of SAE?**
A. analytical
B. entrepreneurship
C. improvement
D. placement
495. **Everyone is familiar with the mistletoe tradition. What color are the berries of the plant?**
A. Red
B. White
C. Blue
D. No berries
496. **A greenhouse has a dirt floor. The owner has made some money from his fall shrub sales the last three years and decides to pour a concrete floor. How many square feet is his greenhouse if it measures 36' wide and 72' long?**
A. 108
B. 216
C. 1296
D. 2592
497. **What form of documentation would Alex need as he starts his internship with a county's soil scientist?**
A. peer reviews of his publication
B. scholarship application
C. business plan
D. training plan
498. **A growing method for seedlings that can grow in a multiple seedlings in one flat.**
A. Rag-doll method
B. Seedbox method
C. Petri dish method
D. Floating in water method
499. **Callie is propagating her African violet by taking leaf cuttings. She is confident that leaf cuttings will work because she is using:**
A. axillary buds
B. herbaceous plants
C. stem tissue
D. woody plants
500. **Which flowers have long stalks or spikes with florets?**
A. Amaryllis and zinnia
B. Ginkgo and croton
C. Peony and fuchsia
D. Snapdragon and gladiolus
501. **Which deciduous tree has bright, yellow 3" fan-shaped leaves on 3" petioles and also has foul-smelling berries with seeds?**

- A. Ginkgo
B. Live oak
C. Sasanqua camellia
D. Sycamore
502. **What are the official FFA colors?**
A. National Blue and Corn Gold
B. National Blue and Corn Yellow
C. Navy Blue and Corn Gold
D. Blue and Gols
503. **Which deciduous shrub produces large blue, pink, or white "snowball" flowers?**
A. Compacta holly
B. Indian hawthorn
C. Japanese yew
D. French hydrangea
504. **What percent of the world's water is in the oceans?**
A. 67.6
B. 97.6
C. 87.6
D. 77.6
505. **What shade tree did Sandy most likely see with deep-green leaves having a toothed or serrated margin?**
A. ginkgo
B. Chinese dogwood.
C. southern red oak.
D. zelkova
506. **Grown on approximately 1% of the available US Cropland**
A. Fruit
B. Vegetables
C. Trees
D. Shrubs
507. **Which deciduous tree produces white bracts after the leaves appear?**
A. Ginkgo
B. Chinese dogwood
C. Southern red oak
D. Zelkova
508. **Is Turf Grass Management the establishment and care of a grass surface in a residential, business, sports- facility, or park setting?**
A. Yes
B. No
C. Maybe
D. none of above
509. **___ is a complex organic molecule that traps light energy for conversion through photosynthesis into chemical energy**
A. cytoplasm
B. endoplasmic reticulum
C. chlorophyll
D. ribosomes
510. **area of lawn and a group of sprinklers operated by one remote control valve also called a block of heads**
A. zone
B. cycle
C. main line
D. lateral line
511. **FFA helps students develop leadership beyond the class, local school chapter, and federation. What is the first level of participation above the federation level?**
A. International
B. National FFA Organization
C. North Carolina FFA Association
D. Region

512. **Which tropical plant has a flower similar to a lily?**
- Amaryllis
 - Croton
 - Snapdragon
 - Zinnia
513. **The co-op has Hibiscus priced at \$14.00 each. On Wednesday the Hibiscus are going on sale for 15% off making them cost \$ 11.90 each. Any Hibiscus not sold by Saturday will be marked off another 20%. What percent of the original price is the final price?**
- 82.5 %
 - 68 %
 - 65 %
 - 35 %
514. **Where can a horticulturist work?**
- Greenhouse or nursery production and management
 - Food Service
 - Business Management
 - Building & Construction
515. **Wendy has problems getting flowers to grow in one of her flower beds. If she sends a soil sample to the laboratory to get recommendations to correct her problem, she should take cores or slices of soil from:**
- all the flower beds
 - all the flower beds except the problem one
 - the entire lawn
 - the problem flower bed
516. **If the seed mixture in a deer plot formula says it has 25% Omega Ryegrass in the mixture, how many pounds of Omega Ryegrass seed are in a 50# bag of the deer plot mix?**
- 25#
 - 12.5#
 - 50#
 - 6.25#
517. **Which type of root system causes plants to be easier to transplant?**
- Fibrous
 - Long
 - Sharp
 - Tap
518. **Which is a lightweight, inorganic mica mineral capable of absorbing a large amount of water in growing media?**
- bark
 - compost
 - leaf mold
 - vermiculite
519. **when Gene makes a floral design, the flowers he uses to add mass are:**
- Baby's breath
 - Carnations
 - Gladiolus
 - orchids
520. **Part of a plant is removed to grow another plant for propagation**
- cutting
 - planting
 - transplanting
 - dividing
521. **Discipline of horticulture concerned with the growing and maintaining landscape plants and related products, the use of equipment, and landscape design concepts.**
- Arboriculture
 - Floriculture
 - Nursery/Landscape
 - Turfgrass Management

522. **Hannah is hardening off some tomatoes started in the greenhouse. Which is she reducing to harden off her plants?**
- A. fertilizer and air
 - B. humidity and water
 - C. lime and phosphate
 - D. soil and fertilizer
523. **The part of biology that deals with animals**
- A. horticulture
 - B. zoology
 - C. agronomy
 - D. deciduous
524. **In the sequence of landscape plan development, the one between the "bubble" diagram and the plan used by the landscape contractor is the:**
- A. construction plan
 - B. final plan
 - C. functional diagram
 - D. preliminary design
525. **Which type of immersion Supervised Agricultural Experience requires a research plan to include all safety requirements?**
- A. placement
 - B. experimental
 - C. service learning
 - D. school based enterprise
526. **The open portion of the soil that holds air or water is ____**
- A. parent material
 - B. field capacity
 - C. pore spaces
 - D. bedrock
527. **Which of the following is NOT a form of propagation?**
- A. pruning
 - B. cuttings
 - C. grafting
 - D. tissue culture
528. **What is the career title of a person who designs landscapes inside a mall?**
- A. Landscape designer
 - B. Interiorscape designer
 - C. Floral designer
 - D. Landscape technician
529. **The openings or stomates in the lower leaf surface are opened and closed by the:**
- A. Guard cells
 - B. Lateral buds
 - C. Margins
 - D. Xylem
530. **Which activity might a group of students conducting a School-based Enterprise using the school greenhouse complete as they begin their immersion SAE?**
- A. brainstorm potential employers for the experience
 - B. develop a research plan including all safety requirements
 - C. complete necessary paperwork to obtain a small business loan
 - D. create and distribute a survey to explore marketplace needs and buyer preferences for bedding plants
531. **An interior plant that is about 4 feet tall and looks similar to a little pine or cedar tree with dark green leaves. It is a/an:**
- A. Eastern White Pine
 - B. Norfolk Island Pine
 - C. Fraiser Fir
 - D. Eastern Redbud

532. **Which of the following statement is true?**
- A. Horticulture have decreased employment opportunities for women
 - B. The increase in horticultural production has increased the vulnerability
 - C. Horticulture is emerging as an important source of livelihood in the rural
 - D. none of above
533. **Low moisture-holding capacity is a characteristics of**
- A. clay
 - B. silt
 - C. sand
 - D. none
534. **The most commonly used method to start a lawn is:**
- A. Plugging
 - B. Seeding
 - C. Sodding
 - D. Sprigging
535. **The study and cultivation of grape vines.**
- A. Olericulture
 - B. Viticulture
 - C. Floriculture
 - D. Horticulture
536. **What is the genus name for all dogwoods?**
- A. Quercus
 - B. Acer
 - C. Cornus
 - D. Ilex
537. **If Susan is planting one nursery plant per container, the plant should be:**
- A. cut back to the media
 - B. planted in the center of the container
 - C. planted near the edge of the container
 - D. root pruned
538. **The science and practice of growing, harvesting, storing, designing, and marketing flowering plant is:**
- A. floriculture
 - B. pomology
 - C. olericulture
 - D. horticulture
539. **An immersion SAE that is a student-led business that offers goods or services to people in the community is:**
- A. placement/internship
 - B. research
 - C. service based learning
 - D. school-based enterprise
540. **In which part of the foundational SAE would Karen schedule interviews with three professionals in the floral industry and record findings in a written summary?**
- A. workplace safety
 - B. agricultural literacy
 - C. career exploration and planning
 - D. personal financial planning and management
541. **A group of cells of similar structure that performs a specific function is referred to as ____**
- A. Proteins
 - B. Vacuoles
 - C. Tissues
 - D. Lipids
542. **Plants grown for their visual appeal are called ____**
- A. Olericulture
 - B. plant propagation
 - C. Botany
 - D. Ornamentals

543. **Which characteristics of sandy textured soils?**
- A. small packed together soil particles
 - B. high moisture-holding capacity
 - C. high nutrients-holding capacity
 - D. low moisture-holding capacity
544. **The component of the animal science instructional program that gives students an opportunity to explore interests and gain work experience is the:**
- A. classroom
 - B. FFA
 - C. state ffa convention
 - D. Supervised Agricultural Experience
545. **Which foliage plant has yellow and orange in its leaves?**
- A. Amaryllis
 - B. croton
 - C. peony
 - D. snapdragon
546. **Lettuce is an example of which part of the plant?**
- A. leaves
 - B. stem
 - C. roots
 - D. none of above
547. **What part of the plant attracts bees to aid in pollination?**
- A. Petals
 - B. Sepals
 - C. Stamen
 - D. none of above
548. **This type of SAE involves placing students in jobs outside the regular classroom hours. They may be paid or unpaid (volunteer) work.**
- A. Exploratory
 - B. Placement
 - C. Entrepreneurship
 - D. Improvement
549. **What does every paragraph of the FFA Creed begin with?**
- A. I believe ____
 - B. I imagine ____
 - C. I farm ____
 - D. I am ____
550. **When carrying hand shears, you should carry them with the blade**
- A. facing down
 - B. facing straight up
 - C. facing towards your body
 - D. open
551. *** A place which specializes in growing and caring for plants, shrubs and ornamental trees that can later be transported to landscape areas.**
- A. Nursery
 - B. House
 - C. Temple
 - D. Fort
552. **The turf play area is 3 feet longer than it is wide and has an area of 550 square feet. How many feet long is the turfed play area?**
- A. 20
 - B. 22
 - C. 25
 - D. 28
553. **When making a cutting you should always cut**
- A. above the node
 - B. below the node

- C. on the node
D. anywhere
554. **Water enters and exits the guard cells by:**
A. osmosis
B. photosynthesis
C. diffusion
D. active transport
555. **What part of Dawn's foundational SAE gave her a better understanding of personal finance and planning?**
A. creating a cover letter
B. creating a personal budget
C. interviewing a soil scientist
D. completing a career interest survey
556. **Kimberly is interested in designing, installing, and maintaining the outdoor environment around homes. What professional area will provide careers in her area of interest?**
A. accounting
B. floristry
C. landscaping
D. soil science
557. **The part of a flower that develops into a fruit is the:**
A. Anther
B. Filament
C. Ovary
D. Petal
558. **Butting two strips of grass together in a brick pattern is used when**
A. sodding
B. sprigging
C. sowing
D. Plugging
559. **Which is the best growing media if an inorganic media is desired?**
A. leaf mold
B. perlite
C. sawdust
D. wood shavings
560. **If a business has \$10, 000 cash on hand, \$25, 000 in a checking account and land valued at \$300, 000, on which line of a financial statement should the \$335, 000 total be entered?**
A. current assets
B. net worth
C. total assets
D. total liabilities
561. **Sean is working on the training agreement part of his Supervised Agricultural Experience. It is signed by himself, his parent or guardian, and his employer or supervisor. This is part of what type of SAE?**
A. Analytical
B. Entrepreneurship
C. Improvement
D. Placement
562. **What is the female part of the flower called?**
A. pistil
B. stamen
C. leaf
D. petal
563. **Growing pumpkins to sell is an example if what type of Immersion SAE.**
A. Foundational
B. Placement
C. Ownership
D. School-based Enterprise

564. **The scientific study of plants, including their physiology, structure, genetics, ecology, distribution, classification, and economic importance.**
- A. Botany
 - B. Agronomy
 - C. Forestry
 - D. Horticulture
565. **Producing and using plants to beautify the environment**
- A. Floriculture
 - B. Landscape horticulture
 - C. Olericulture
 - D. Floral production
566. **Which of these causes more plant disease?**
- A. Fungi
 - B. Bacteria
 - C. Algae
 - D. Virus
567. **National blue and Corn gold are the:**
- A. FFA Emblem
 - B. FFA Colors
 - C. FFA Motto
 - D. FFA Slogan
568. **Most flowers, shrubs, and lawn grasses grow best in a pH ranging from:**
- A. 1.0 to 2.5
 - B. 3.0 to 5.0
 - C. 5.5 to 7.0
 - D. 7.5 to 9.0
569. **The proper time of the year to plant warm-season lawn grasses is:**
- A. fall
 - B. spring
 - C. summer
 - D. winter
570. **The plant part that attracts insects for pollination is the:**
- A. flower
 - B. leaf
 - C. root
 - D. stem
571. **A tropical plant with palm-like leaves is**
- A. croton.
 - B. live oak.
 - C. parlor palm
 - D. Savannah holly.
572. **We planted 500 Zinnia seeds in 1020 flats. If we have a 85% germination rate how many Zinnias will we need to transplant to containers?**
- A. 325
 - B. 425
 - C. 485
 - D. 500
573. **How big should the gap between garden rows and boxes?**
- A. 4 ft
 - B. 3 inches
 - C. 10 ft
 - D. 2 ft
574. **What type of nursery structure protects plants from adverse weather conditions when covered in white plastic?**
- A. Shade house
 - B. hotbeds
 - C. PNP
 - D. Shed

575. **The beginning of the food chain for all living things is the process of photosynthesis. Most photosynthesis takes place in plant:**
- A. flowers
 - B. leaves
 - C. roots
 - D. stems
576. **The best tool for Becky to remove 1/4"-1/2" rose stems from her bed of roses is a/an:**
- A. axe
 - B. chain saw
 - C. pole pruner
 - D. pruning shear
577. **Phosphorus is needed in large amounts by the plant to**
- A. have dark green leaves
 - B. stimulate flower and seed development
 - C. Prevent dead stem tips
 - D. Assist in translocation
578. **The "unity" landscape design principle is demonstrated by:**
- A. foundation plantings
 - B. maintaining size relationships
 - C. privacy fences
 - D. repeating plant species
579. **Mass flowers are used in floral designs to add mass and to:**
- A. create the accent or focal point
 - B. draw attention to the focal point
 - C. fill empty spaces and hide the frame
 - D. outline the shape and size
580. **Plant production provides for how many American jobs?**
- A. More than 5.5 million
 - B. More than 7 million
 - C. More than 1.3 million
 - D. More than 1.9 million
581. **The tree with a fan-shaped leaf that Joan noticed in front of the bank is most likely a:**
- A. ginkgo
 - B. Chinese dogwood.
 - C. southern red oak.
 - D. zelkova
582. **In which stage of growth do plants rest or grow very little?**
- A. dormant
 - B. indeterminate
 - C. juvenile
 - D. reproductive
583. **Jacob learns a disadvantage of propagating using cuttings is that when cuttings are removed from the parent plant, the:**
- A. cuttings' absorption process stops.
 - B. cuttings are cut off from their source of water.
 - C. parent plant needs more light.
 - D. parent plant needs additional fertilizer.
584. **Which branch of horticulture produces fruits and nuts?**
- A. Olericulture
 - B. Pomology
 - C. Fruitology
 - D. Agronomy
585. **plant is filled with moisture**
- A. horticulture
 - B. zoology
 - C. evrgreen
 - D. turgid

586. **Which of the following is not one of the four distinct processes of chemical weathering?**
- A. exfoliation
 - B. hydrolysis
 - C. hydration
 - D. dissolution
587. **Which step in the SAE process would students complete after finishing their foundational SAE?**
- A. get coaching and feedback from a teacher or mentor
 - B. fill out paperwork to obtain a personal loan
 - C. sign up for community college courses
 - D. begin an entrepreneurship SAE
588. **The primary function of a flower is**
- A. to look nice
 - B. produce sugars
 - C. reproduction
 - D. store food
589. **This occurs after a tube grows down from the pollen grain through the style to the ovary.**
- A. pollination
 - B. germination
 - C. fertilization
 - D. seed dispersal
590. **The NFA stood for:**
- A. National Farmers of America
 - B. New Farmers of American
 - C. New Farmer Associations
 - D. New Farmers of America
591. **Pesticide used to kill undesirable plants, which are commonly referred to as weed is known as**
- A. Fungicide
 - B. Herbicide
 - C. Insecticide
 - D. None of the Above
592. **If a plant farm has total assets of \$500, 000 and total liabilities of \$300, 000, what number is the correct entry on the net worth line of a financial statement?**
- A. \$200, 000
 - B. \$300, 000
 - C. \$500, 000
 - D. \$800, 000
593. **What is the main purpose of flowers?**
- A. Make people happy
 - B. Produce Seeds
 - C. Produce food
 - D. Food for the bees
594. **The science or practice of planting, managing, and caring for forests.**
- A. Botany
 - B. Agronomy
 - C. Forestry
 - D. Horticulture
595. **Which of the following is not a rule in the Greenhouse?**
- A. Remove tripping hazards
 - B. Only use chemicals for the intended purpose
 - C. Wear the appropriate PPE's
 - D. Chemicals can be stored at your station.
596. **What is the first line of the FFA Motto?**
- A. Living to Serve
 - B. Earning to Live
 - C. Learning to Do
 - D. Doing to Learn

597. **Carl keeps accurate records including amounts of items bought and sold for his Supervised Agricultural Experience. What type of SAE is Carl working on?**
- A. Analytical
 - B. Entrepreneurship
 - C. Improvement
 - D. Placement
598. **a device designed to take the place of a sprinkler head for trickle irrigation**
- A. emitter
 - B. spray heads
 - C. rotary irrigation
 - D. sprinklers
599. **Which large evergreen shrub has white, pink, or red 1 1/2" - 2" flowers in October and November?**
- A. Cape jasmine
 - B. Chinese dogwood
 - C. Japanese yew
 - D. Sasanqua camellia
600. **A warm-season grass that has coarse textured medium-to-dark green leaves and grows from stolons is:**
- A. Annual Ryegrass
 - B. Fine Fescue
 - C. Kentucky Bluegrass
 - D. St. Augustinegrass
601. **In this method, seeds are put in a container of water for 15 minutes.**
- A. Rag-doll method
 - B. Seedbox method
 - C. Petri dish method
 - D. Floating in water method
602. **Which type of garden takes up less space?**
- A. Flat bed
 - B. Container
 - C. Raised beds
 - D. Rooftop
603. **Within the research immersion SAE which of the following involves using a design process to develop a product that solves a problem?**
- A. experimental
 - B. analysis
 - C. invention
 - D. none of above
604. **Disadvantages of sexual (Seed) propagation**
- A. they are all long and large
 - B. Most seeds are very slow and germinate
 - C. True
 - D. False
605. **Aaron is working in landscape maintenance. What does he do?**
- A. Cares for the landscape.
 - B. Designs, installs and contracts the landscape.
 - C. Designs landscape plans.
 - D. Installs landscape plants.
606. **Which plant has feather-like foliage**
- A. Fortune tea olive
 - B. Plume asparagus fern
 - C. Southern red oak
 - D. Sycamore
607. **The primary function of fruit is to:**
- A. Absorb water and nutrients from soil
 - B. Carry, nourish and protect seeds

- C. Connect roots to leaves
D. Manufacture food for the plant
608. **What is the leaf stalk or part that connects the leaf to the stem?**
A. Midrib
B. Apex
C. Petiole
D. Blade
609. **Lemon leaf and gerber daisies are used in arrangements are:**
A. line flowers
B. mass flowers
C. form flowers
D. filler flowers
610. **Aesthetics is all about:**
A. increasing yield
B. increasing production
C. producing plants that are pleasing in appearance
D. none of the above
611. **Which part of biology deals with plants?**
A. oncologists
B. gardener
C. Botany
D. horticulture
612. **What does PPE stand for?**
A. Personal Party Equipment
B. Personal Protective Equipment
C. Purple People Eater
D. Purposeful Protection Equipment
613. **The general rule for root pruning is 10" of circle diameter for each 1" of plant stem diameter. What diameter circle should be made for a plant that has a 3" diameter stem?**
A. 3"
B. 5"
C. 10"
D. 30"
614. **A Hogarth curve floral design is shaped like a/an:**
A. fan
B. inverted T
C. oval
D. S
615. **Container-grown plants need to have their roots untangled or cut before they are:**
A. decayed
B. planted
C. pruned
D. dried
616. **The high carbon-to-nitrogen ratio of non-decomposed sawdust and wood shavings affects nitrogen in growing media by:**
A. acting as a fertilizer
B. increasing availability for plant use
C. making it unavailable for plant use
D. stimulating plant growth
617. **Producing field-grown nursery plants is being replaced by container-grown plants because container-grown plants:**
A. have lower start-up costs.
B. receive less shock when moved.
C. require less water.
D. require less protection in winter.
618. **Process of creating new plants**
A. Germination
B. Propagation
C. Fertilization
D. Pollination

619. **On the map 1/4 inch equals 12 miles. If a road on the map is 60 miles long, how long is the line to draw this road?**
- 1/4 inch
 - 1/2 inch
 - 1.0 inch
 - 1 1/4 inches
620. **A large deciduous tree that has greenish-yellow flowers in early spring before it has leaves and 2" to 3" winged samara fruit is the:**
- Japanese yew.
 - Norway maple.
 - Norway spruce.
 - Savannah holly.
621. **Trees that keep their functional leaves throughout the year are:**
- auxins
 - deciduous
 - evergreen
 - inhibitors
622. **Which state ranks first in wholesale sale of floriculture and olericulture crops?**
- California
 - Florida
 - Texas
 - Illinois
623. **shape of the individual plants**
- form
 - line
 - texture
 - sustainability
624. **Zoey prefers to use a soilless horticultural mix for her greenhouse because the mix:**
- Comes from the garden
 - Has a lot of weight
 - Cheap
 - Sterile
625. **Spotted lanternfly first arrived from Asia to which state in 2012?**
- Virginia
 - New Jersey
 - Pennsylvania
 - Delaware
626. **Pomology is:**
- The production of pom poms
 - The industry of cut flowers
 - The science of vegetables
 - The production of fruit and nut crops
627. **What type of garden needs a professional architect to help you plan it?**
- Raised bed
 - Container
 - Rooftop
 - Flat bed
628. **Garden Centers are retail outlets that sell**
- Biology kits
 - Plants and garden supplies
 - Fruits and Nuts
 - none of above
629. **The total perimeter of the square garden bed is 48 feet. What is the total area of the bed in square feet?**
- 12
 - 96
 - 144
 - 192

630. **Current liabilities are debts that are:**
- A. due in the next ten years
 - B. due in the next seven years
 - C. due this year
 - D. past due.
631. **If no more than one half the total leaf surface should be removed, and the recommended mowing height is 2 1/2" what is the max height the grass should be before it's mowed**
- A. 2 1/2"
 - B. 4"
 - C. 5"
 - D. 8"
632. **Using plants for their beauty**
- A. Ornamental Horticulture
 - B. Animal Science
 - C. Pomology
 - D. Olericulture
633. **What part of the horticulture instructional program provides the most opportunities to develop leadership, teamwork, citizenship, and personal growth?**
- A. FFA
 - B. Horticulture Knowledge
 - C. Plant Nursery
 - D. Supervised Agricultural Experience (SAE)
634. **Neil is sexually propagating some plants. Which plant parts will he use?**
- A. leaves
 - B. roots
 - C. seeds
 - D. stems
635. **The main difference between sodding and plugging is that sodding uses strips of sod to cover the whole lawn, but plugging starts the lawn by using:**
- A. plant runners or cuttings
 - B. seeds
 - C. small pieces of sod
 - D. stolons and sprigs
636. **What area of horticulture is concerned with growing, selling, designing, and arranging flowers**
- A. Nursery production
 - B. Landscaping
 - C. Turfgrass management
 - D. Floriculture
637. **If a turfgrass producer's inventory shows 10 mowers valued at \$100 each, 10 tons of fertilizer worth \$300 per ton, pesticides worth \$2, 000 and 10 acres of land valued at \$4, 000 per acre, what amount should be entered on the total value on the non-depreciable inventory line of the inventory page?**
- A. \$6, 400
 - B. \$40, 000
 - C. \$45, 000
 - D. \$46, 000
638. **The drawing that employees of Jones Landscape Company will use to install materials at a jobsite is most likely the:**
- A. bubble diagram.
 - B. final plan.
 - C. functional plan.
 - D. preliminary design.
639. **Cutting down a tree is called ____**
- A. Felling
 - B. Knelling

- C. Dropping
D. Chopping
640. **Which FFA CDE will help develop knowledge and skills needed to effectively participate in a horticulture organization's business meeting? Hint: this process is used in most professional, government, and civic organizations.**
- A. Floriculture
B. Introduction to Horticulture
C. Nursery/Landscape
D. Parliamentary Procedure
641. **What tacky material is used to wrap wire**
- A. floral foam
B. floral tape
C. floral picks
D. floral wire
642. **Melanie finds aphids on her plant. She is most concerned the aphids will damage her plants by:**
- A. chewing
B. piercing and sucking
C. rasping and sucking
D. sponging
643. **Floriculture is the study of:**
- A. bedding and garden plants
B. foliage plants
C. potted flowering plants
D. all of the above
644. **Someone who propagates and cares for plants is:**
- A. Greenhouse worker
B. Landscape designer
C. Floral designer
D. Lawn maintenance worker
645. **when something repeats itself enough times with a standard distance between repetitions, a rhythm is established**
- A. simplicity
B. rhythm and line
C. unity
D. proportion
646. **a very prominent line planting: plants are planted along the foundation of a building, the entry way or a building to soften and blend into the landscape.**
- A. corner planting
B. foundation planting
C. line planting
D. mass planting
647. **Dwarf Yaupon, Helleri Holly and Dwarf Burford Holly are all in the genus called:**
- A. Ilex
B. Maple
C. Pinus
D. Quercus
648. **Placing the desires and welfare of others above oneself is a leadership quality called:**
- A. enthusiasm
B. parliamentary procedure
C. tact
D. unselfishness
649. **What are the three layers of a typical soil profile starting at the soil surface?**
- A. Bedrock, subsoil, and topsoil
B. Subsoil, topsoil, and bedrock
C. Topsoil, bedrock, and subsoil
D. Topsoil, subsoil, and bedrock

650. *** Raising livestock, cultivating the soil, and producing row crops, including some fruits and vegetables.**
- A. Landscape
 - B. Agriculture
 - C. Forestry
 - D. none of above
651. **Vegetative growth is the growth of:**
- A. flowers and fruits
 - B. fruits and roots
 - C. leaves, stems, and roots
 - D. roots, seeds and flowers
652. **The green color of leaves is caused by tiny particles in the food producing cells called:**
- A. Guard cells
 - B. Epidermis
 - C. Chloroplast
 - D. Starch
653. **what is the definition of horticulture?**
- A. growing stuff
 - B. the culture of plants for food, comfort, and beauty.
 - C. the growing of plants for their beauty
 - D. the growing, harvesting, storing, processing and marketing of fruits and nuts
654. **What is the FFA Salute?**
- A. I believe in the future of agriculture
 - B. The Pledge of Allegiance
 - C. The National Anthem
 - D. America the Beautiful
655. **The planting, harvesting, storing, processing, and marketing of vegetable crops**
- A. Horticulture
 - B. Olericulture
 - C. Floriculture
 - D. Pomology
656. **gallons per hour. Measures amount of water that flows through an irrigation system.**
- A. GPM
 - B. GPH
 - C. PSI
 - D. none of above
657. **Erosion control is most difficult to control in what type of growing environment?**
- A. PNP
 - B. Container
 - C. Field-grown
 - D. Cold frame
658. **The plant process by which all food is manufactured is:**
- A. absorption
 - B. photosynthesis
 - C. respiration
 - D. translocation
659. ***The area of horticulture that involves the planting, harvesting. Storing, processing and marketing of vegetable crops.**
- A. Pomology
 - B. Olericulture
 - C. Floriculture
 - D. Landscape
660. **the growing and using of plants for their beauty**
- A. pomology
 - B. landscape horticulture
 - C. olericulture
 - D. ornamental horticulture
661. **Pruning a fruit tree is which SAE?**
- A. analytical
 - B. experimental
 - C. placement
 - D. supplementary

662. **A disadvantage of producing field-grown nursery stock compared to container-grown nursery stock is that field-grown stock:**
- A. has higher start-up cost
 - B. has more shock when moved
 - C. requires more water
 - D. requires more winter protection
663. **The eagle is an important part of FFA tradition because it symbolizes the national scope of the FFA. Students most likely will find an eagle in the FFA:**
- A. colors
 - B. emblem
 - C. motto
 - D. pledge
664. **Which of the following is not a soil particle?**
- A. Sand
 - B. Clay
 - C. Silt
 - D. Rock
665. **"Protection against accidents and breakage" is ____**
- A. Accident Protection
 - B. Safety
 - C. Workplace Correctness
 - D. Prevention
666. **Find the perimeter of a square shaped rose garden with sides measuring 6.5 ft each.**
- A. 13.0 ft
 - B. 19.5 ft
 - C. 42.25 ft
 - D. 26.0 ft
667. **The flower that has a large lily-type flower on a 1' to 2' stem is:**
- A. amaryllis
 - B. evergreen candytuft.
 - C. gladiolus.
 - D. snapdragon.
668. **What is a term for planting, harvesting, processing and marketing fruits and nuts**
- A. Pomology
 - B. Floriculture
 - C. Olericulture
 - D. Apple
669. **A crescent floral arrangement is shaped like a:**
- A. circle
 - B. fan
 - C. quarter moon
 - D. triangle
670. **When Eric develops the watering part of his maintenance schedule for his new landscape, he should water often enough to:**
- A. have water runoff
 - B. keep roots dry
 - C. keep water standing
 - D. prevent wilting
671. **Marigolds and other warm-season plants grow BEST during:**
- A. early spring
 - B. late fall
 - C. midsummer
 - D. midwinter
672. **Malik wants to plant a running type of grass in a shady area in his lawn. What should he plant?**
- A. Tall Fescue
 - B. Bentgrass

- C. Creeping Red Fescue
D. Bahai
673. **What is the genus name for all oaks?**
A. Quercus
B. Acer
C. Cornus
D. Ilex
674. **When a plant first begins growing from a seed, the stage of growth is:**
A. dormant
B. juvenile
C. mature
D. reproductive
675. **___ reactions form oxides of parent material by reaction with oxygen.**
A. Hydrolysis
B. Oxidation
C. Aseptic
D. Septic
676. **Why is soil important to plants?**
A. Plants extract water from the soil
B. Plants extract nutrients from the soil
C. Plants anchor themselves in the soil
D. All of the above
677. **seeks to make the viewer feel comfortable within the landscape**
A. Simplicity
B. Proportion
C. Rhythm and line
D. Unity
678. **What type of immersion SAE is Mark completing by building and maintaining the compost units at the school?**
A. school-based enterprise
B. entrepreneurship
C. invention
D. research
679. **A tree that has no leaves in the winter is considered:**
A. Deciduous
B. Evergreen
C. Herbaceous
D. Turgid
680. **The cultivation, processing and marketing of flowers, ornamental plants, vegetables, fruits and nuts is:**
A. floriculture
B. pomology
C. olericulture
D. horticulture
681. **Which of the following sectors of the economy are NOT affected by horticulture?**
A. mining
B. plant production
C. sales and marketing
D. research
682. **a balled and burlapped plant should be picked up and carried by the:**
A. Buds
B. Dead flowers
C. Limbs
D. Root ball
683. **Deciduous is a biological term used to describe certain plants. As an example of a deciduous tree is a:**
A. Southern Red Oak
B. Red cedar
C. Long Leaf Pine
D. Short Leaf Pine

684. **Which FFA CDE will help develop knowledge and skills needed to effectively participate in a horticulture organization's business meeting?**
- A. Floriculture
 - B. Introduction to Horticulture
 - C. Nursery/Landscape
 - D. Parliamentary Procedure
685. **What type of garden needs windbreaks?**
- A. Vertical
 - B. Raised bed
 - C. rooftop
 - D. container
686. **Which of the following was NOT listed as a career in the plant production industry?**
- A. Quality control inspector
 - B. Herdsmen
 - C. Landscape service
 - D. Food production
687. **Which flowers does a floral designer use to establish the width and height of an arrangement?**
- A. Bird of paradise
 - B. carnations
 - C. Chrysanthemums
 - D. Snapdragons
688. **India has emerged as a world leader in producing a variety of**
- A. Fruits and vegetables
 - B. Vegetables and flowers
 - C. Flowers and fruits
 - D. none of above
689. ***The culture of plants for food, comfort, and beautification purposes.**
- A. Horticulture
 - B. Forestry
 - C. Floriculture
 - D. Agriculture
690. **When measuring pH, the higher the soil pH number, the:**
- A. less alkaline
 - B. more acidic
 - C. more alkaline
 - D. more neutral
691. **The leaves on a gladiolus plant are:**
- A. shaped like palm trees.
 - B. shaped like swords.
 - C. variegated green and yellow.
 - D. velvety textured and quilted.
692. **What type flower has ONLY male or ONLY female flower parts?**
- A. Asexual
 - B. Complete
 - C. Incomplete
 - D. Pretty
693. **The person planting hanging baskets can plant 40 hanging baskets of petunias in one hour. How many hanging baskets can he plant in 90 minutes?**
- A. 45
 - B. 60
 - C. 150
 - D. 360
694. **The type of floral design flowers that have tall spikes with florets along the stem such as gladiolus are:**
- A. filler
 - B. form
 - C. line
 - D. mass

695. **Which plants are grown for their foliage?**
 A. Croton and parlor palm
 B. Gloxinia and amaryllis
 C. Snapdragon and gladiolus
 D. Zinnia and peony
696. **The lower portion of a graft is known as what?**
 A. Rootstock
 B. Lowerstock
 C. Understock
 D. Scion
697. **the growing, harvesting, storing, processing, and marketing of vegetables**
 A. olericulture
 B. landscape horticulture
 C. pomology
 D. horticulture
698. **Joel operates a design-build landscape business, but he wants to get someone else to install the pools, stonework, and electrical work. Who should he get to do this work?**
 A. floral designer
 B. landscape designer
 C. landscape maintenance crew
 D. subcontractor
699. **A fan floral design is shaped like a:**
 A. circle
 B. quarter moon
 C. semi-circle
 D. triangle
700. **Two examples of Ornamental Horticulture include ____**
 A. Olericulture and Pomology
 B. Floriculture and Landscape Horticulture
 C. Pomology and vegetative growing
 D. none of above
701. **Zoey uses a soilless horticultural mix for her greenhouse because it:**
 A. comes from the garden
 B. has a lot of weight
 C. is cheap
 D. is sterile
702. **Insects with toothed jaws that bite and tear their food have what type of mouth parts?**
 A. Chewing
 B. Grinding
 C. Compound
 D. Piercing
703. **An individual whose profession includes the planting of trees and shrubs, as well as construction of patios, walls, and other outdoor features is a:**
 A. Landscape nurseryman
 B. Landscape Contractor
 C. Landscape designer
 D. Home Gardener
704. **what is a sexual propagation?**
 A. growing plants from roots
 B. growing plants from seeds
 C. growing plants from water
 D. none of above
705. **Because azaleas produce flowers on wood grown the previous growing season, the shrubs should be pruned in the late:**
 A. Fall
 B. spring
 C. summer
 D. winter

706. **Sean is working on the training agreement part of his SAE. It is signed by himself, parent or guardian, and his employer and supervisor this is what type of SAE?**
- A. analytical
 - B. entrepreneurship
 - C. improvement
 - D. placement
707. **After the egg in the ovule is fertilized, it becomes a ____**
- A. seed
 - B. root
 - C. flower
 - D. fruit
708. **The edge of a leaf is the:**
- A. Margin
 - B. Midrib
 - C. Terminal bud
 - D. Veins
709. **An example of a placement Supervised Agricultural Experience is:**
- A. working at the school greenhouse assisting customers for the FFA plant sale
 - B. advertising for a food drive at the local food bank
 - C. growing and selling pumpkins
 - D. working at a florist
710. **As a garden center worker, Julie should:**
- A. be a high school dropout
 - B. be unfriendly to customers
 - C. enjoy working with people and plants
 - D. expect to work in an air conditioned area
711. **Thomas is a landscape nursery worker. The type of work he does is:**
- A. Design landscape plans.
 - B. Install the plants.
 - C. keep financial records
 - D. Plan and design the outdoor environment.
712. **Indoor Christmas-season plants with bracts or modified leaves that are red, pink, or white on different plants. What is the name of these plants?**
- A. Poinsettia
 - B. Spider plant
 - C. Florist chrysanthemum
 - D. Geranium
713. **What is the sticky part of the flower that catches pollen?**
- A. style
 - B. stigma
 - C. ovary
 - D. petal
714. **The ability of a seed to germinate is known as:**
- A. Inert
 - B. Viable
 - C. Grading
 - D. Debris
715. **Within the research immersion SAE, which of the following applies the scientific method?**
- A. experimental
 - B. analysis
 - C. invention
 - D. none of above
716. **What is the TISSUE that carries food from a plant's leaves to its cells?**
- A. xylem
 - B. phloem
 - C. photosynthesis
 - D. vascular tissue

717. **What do we call the tiny pores on the underside of the leaf?**
- A. Buds
 - B. Stamens
 - C. Cuticle
 - D. Stomates
718. **Which is true of the amount of detail in the landscape functional design as compared to the final landscape plan?**
- A. less
 - B. more
 - C. one-half
 - D. same
719. **The leadership quality that means reliable support for an individual, group, or cause is:**
- A. enthusiasm
 - B. loyalty
 - C. tact
 - D. unselfishness
720. **Serving as FFA Treasurer can help Juan gain experience that he might later use in an horticulture organization to:**
- A. cook steaks
 - B. keep financial records
 - C. write minutes of meetings
 - D. write news reports
721. **The procedure Cathy uses to shape her container-grown nursery stock and remove dead and diseased limbs is:**
- A. chemical pruning.
 - B. disbudding.
 - C. hand pruning.
 - D. liming
722. **If in a landscape drawing 1" equals 3 feet, how many feet would a line that is 4.0" long represent?**
- A. 7
 - B. 6
 - C. 12
 - D. 15
723. **plant is limp because it doesn't have enough moisture**
- A. agronomy
 - B. botany
 - C. wilted
 - D. evergreen
724. **Advantages of sexual (Seed) Propagation**
- A. to make multiples of them in days
 - B. to produce many in a short amount of time
 - C. Produce large numbers in a large amount of time
 - D. more in an hour than in a day
725. **Cash and things owned by the individual or the business for which a financial statement is prepared are listed as:**
- A. assets
 - B. equity
 - C. liabilities
 - D. working capital
726. **What does a landscape architect do?**
- A. Cares for plants after they are installed.
 - B. Constructs pools, fences and drive-ways.
 - C. Installs landscape plants.
 - D. Plans and designs the outdoor environments.

727. **What should be used to determine if amendments are needed in native soil?**
- A. Aeration
 - B. Fertilizing
 - C. Treatment
 - D. Soil test
728. **When placing a ladder against a platform or roof, the top of the ladder should extend above the point where the ladder touches the platform or roof by at least _____**
- A. 2 ft
 - B. 3 ft
 - C. 4 ft
 - D. 5 ft
729. **What does the word horticulture mean?**
- A. farm development
 - B. plant growing
 - C. garden cultivation
 - D. plant science
730. **Fruit with leather skin, juicy and high in vitamin C.**
- A. tropical
 - B. citrus
 - C. vine
 - D. melon
731. **Which type of immersion Supervised Agricultural Experience could require financial and operational reports that are presented to an oversight committee?**
- A. school based enterprise
 - B. entrepreneurship
 - C. experimental
 - D. placement
732. **Plants produce**
- A. Oxygen
 - B. Air
 - C. Nitrogen
 - D. Pollution
733. **Fran stops watering container-grown nursery stock when:**
- A. she gets tired
 - B. water stands in the pot
 - C. water runs over the top of the pot
 - D. water runs through the bottom of the pot
734. **If Joel gets someone else to install the pools, stonework, and electrical work for his design-build landscape business, he is most likely using a:**
- A. floral designer
 - B. landscape designer
 - C. landscape maintenance crew
 - D. subcontractor
735. **What type of SAE is Jose doing if he visits a wholesale nursery and shadows employees to learn about careers?**
- A. analytical
 - B. entrepreneurship
 - C. exploratory
 - D. supplementary
736. **When are you allowed to throw tools?**
- A. Never
 - B. Sometimes
 - C. Always
 - D. none of above
737. **How is Earth a greenhouse?**
- A. Earth's atmosphere does the same thing as the greenhouse.

- B. Carbon Dioxide, a gas in Earth's atmosphere, does what the roof of a greenhouse does.
- C. The Sun shines through the atmosphere, warming the Earth's surface.
- D. All of the above
738. **A soccer field is 120 yards long by 60 yards wide. We are going to add sand to top dress the soccer field and smooth it out. If we use 1 truckload of sand for every 400 square yards of the field, how many truckloads of sand do we need to order?**
- A. 72
- B. 36
- C. 18
- D. 9
739. **Jesus spent several days landscaping his home to help the appearance and to increase the comfort and value. What is he doing?**
- A. analytical
- B. experimental
- C. improvement
- D. placement
740. **A shrub that has scale-like or awl-like needles is most likely a:**
- A. Chinese fringe.
- B. gold mop.
- C. Nellie R. Stevens.
- D. helleri
741. **Which is best for cutting limbs and trees larger than 3" in diameter?**
- A. Chain saw
- B. Hedge shears
- C. Lopping shears
- D. Power pole pruner
742. **A leaflike part that protects a flower bud is a**
- A. sepal
- B. ovary
- C. reproduce
- D. none of above
743. **What is one thing soil is not made up of?**
- A. Organic material
- B. Living decomposers
- C. Air
- D. Nutrients
744. **Which cool-season grass grows from rhizomes and has fine-textured, medium- to dark-green leaves?**
- A. Bermuda
- B. Centipede
- C. Kentucky bluegrass
- D. St. Augustine
745. **Area of horticulture that involves the production of vegetable crops**
- A. Floriculture
- B. Olericulture
- C. Pomology
- D. Landscape Horticulture
746. **What should you do if you are unsure about something?**
- A. Ask Questions
- B. Use Common Sense
- C. Don't touch it and wait for the teacher to help you
- D. All of these
747. **, the economic system of the United States, allows people to do business with a minimum of government interference**
- A. Sole proprietorship
- B. Incorporation

- C. Capitalism
D. Free enterprise
748. **What are the structural framework of the leaf?**
A. Veins
B. Midrib
C. Apex
D. Blade
749. **An immersion SAE that involves the student working for an industry and gaining knowledge through experience is which SAE?**
A. research
B. ownership
C. placement
D. school-based enterprise
750. **Which horticulture division includes vegetable production?**
A. floriculture
B. forestry
C. olericulture
D. turfgrass
751. **Pesticide used to control insects is known as:**
A. Fungicide
B. Herbicide
C. Insecticide
D. None of the above
752. **What holly has 1-3 terminal spines and reaches heights of 15'-25'?**
A. Compacta
B. Nellie R. Stevens
C. Carissa
D. Hellery
753. **Which SAE record heading would be used by Hannah is she has an entrepreneurship type SAE?**
A. hypothesis
B. review of literature
C. training agreement
D. type of enterprise
754. **A method where tube of wet paper containing the seeds that should be grown.**
A. Rag-doll method
B. seed box method
C. Petri dish method
D. floating in water method
755. **What type of Supervised Agricultural Experience would involve researching the effect of various planting times on the yields of radishes?**
A. analytical
B. placement
C. experimental
D. school based enterprise
756. **Which is the first type of landscape plan that uses free form shapes to show plants and buildings to help the designer with the layout?**
A. functional
B. preliminary
C. final
D. none of above
757. **selects and position visually strong items into the landscape. A focal point catches the eye of the viewer and draws it to a key feature in the landscape.**
A. balance
B. line
C. focalization
D. texture

758. **Which type of business handles everything from the first contact with the client through design and construction as well as long-term care and maintenance?**
- A. design-build firm
 - B. landscape installer
 - C. landscape maintenance
 - D. subcontractor firm
759. **applies water under pressure over the tops of plants**
- A. sprinkle irrigation
 - B. Drip or trickle irrigation
 - C. Spray heads
 - D. Rotary sprinklers
760. **line flowers are used in floral design to:**
- A. Add mass and weight
 - B. establish height and width
 - C. draw attention to accent area
 - D. fill empty spaces
761. **Which plant has a serrated or toothed leaves, and blooms in the fall season?**
- A. Christmas cactus
 - B. Peperomia
 - C. Thanksgiving cactus
 - D. Wax plant
762. **keeps leaves and remains green year round**
- A. turgid
 - B. evergreen
 - C. deciduous
 - D. agronomy
763. **___ is a complex polysaccharide carbohydrate. The form of food commonly stored by plants.**
- A. ribosome
 - B. lipid
 - C. protein
 - D. starch
764. **What is a perennial that produces a long-lasting colorful flower often used by florists?**
- A. Christmas cactus
 - B. Wax plant
 - C. Gerber daisy
 - D. Nerve plant
765. **Conditioning the soil includes:**
- A. adding fertilizer and lime
 - B. grading the slope
 - C. selecting quality grass seeds
 - D. sowing grass seeds
766. **What information would you find on a MSDS?**
- A. Product Identification
 - B. Health Hazard Data
 - C. Storage and Handling precautions
 - D. All of the above
767. **The science of soil management and crop production.**
- A. Botany
 - B. Agronomy
 - C. Forestry
 - D. Horticulture
768. **What is the genus name for all hollies?**
- A. Quercus
 - B. Acer
 - C. Cornus
 - D. Ilex

769. **Jones Landscape Company needs to install materials at a job site. Which drawing will employees likely use on the job?**
- A. functional
 - B. preliminary
 - C. final
 - D. none of above
770. **What two areas of horticulture make up ornamental horticulture?**
- A. Landscape and Floriculture
 - B. Floriculture and Forestry
 - C. Forestry and Viticulture
 - D. none of above
771. **If DeShawn bought a tropical that has a thick, rounded leaf, he most likely purchased a/an:**
- A. jade plant
 - B. aglaonema
 - C. false aralia
 - D. red-edged dracaena.
772. **Propagating nursery plants using a piece of stem or root is known as:**
- A. cutting
 - B. grafting
 - C. layering
 - D. budding
773. **The beginning of the food chain for all living things is the process of photosynthesis which takes place in plant:**
- A. Flowers
 - B. Leaves
 - C. Roots
 - D. Stems
774. **The process of breaking, scratching, or softening the seed coat so that water can enter and initiate germination is called:**
- A. initiation
 - B. scarification
 - C. forcing
 - D. sprouting
775. **Which is an application of the landscape design principle of proportion?**
- A. install foundation plantings and a privacy fence
 - B. maintain size relationships between plants and the building
 - C. raise porches, patios, and decks to the level of doors
 - D. repeat colors, construction materials, or plants
776. **On a financial statement, net worth is:**
- A. current assets minus current liabilities
 - B. current liabilities plus current assets
 - C. total assets minus total liabilities
 - D. total assets plus total liabilities
777. **Marcy mixes perlite in her soilless mix. What is perlite?**
- A. Bark from a pecan tree
 - B. Dead plant material
 - C. Natural volcanic rock
 - D. Product of seaweed
778. **Horticulture sector contributes nearly one-third of the value of agriculture output & ____ per cent of GDP**
- A. 6%
 - B. 11%
 - C. 13%
 - D. none of above
779. **Wire with a higher gauge number is:**
- A. thinner
 - B. thicker
 - C. shorter
 - D. longer

780. **The production, transportation, and use of flowers and foliage plants.**
- A. Pomology
 - B. Olericulture
 - C. Floriculture
 - D. Horticulture
781. **High moisture holding capacity is a characteristic of**
- A. sand
 - B. silt
 - C. clay
 - D. perlite
782. **Participating in FFA public speaking, extemporaneous public speaking, creed speaking, parliamentary procedure, agricultural sales career development events, and oral reasons for livestock, dairy, and poultry career development events each help students develop:**
- A. animal science technical skills
 - B. communication skills
 - C. interest in animal science
 - D. plant science technical skills
783. **Jesus spent several days landscaping his home to help the appearance and to increase the comfort and value. What Supervised Agricultural Experience is Jesus conducting?**
- A. Analytical
 - B. Experimental
 - C. Improvement
 - D. Placement
784. **Perlite and vermiculite are most likely examples of:**
- A. hydroponics
 - B. organic growing media
 - C. soil growing media
 - D. soilless growing media
785. **Net worth is the same as:**
- A. current assets
 - B. equity
 - C. inventory
 - D. total liabilities
786. **A person who must be skilled in checking horticultural products for diseases, insects, and quality is a/an:**
- A. accountant
 - B. inspector
 - C. sales representative
 - D. teacher
787. **What are the degrees that can be earned in FFA? Please select the answer choice that is listed in order.**
- A. Chapter, Discovery, American, State
 - B. Chapter, Greenhand, State, American
 - C. Greenhand, Chapter, State, American
 - D. Discovery, Chapter, State, American
788. **The greatest percent of the wholesale floriculture market is attributed to:**
- A. Flowering potted plants
 - B. Foliage plants
 - C. Cut flowers
 - D. Bedding plants
789. **If Shanice plants a shrub with small, glossy entire margined leaves, she most likely is planting a:**
- A. Japanese boxwood.
 - B. helleri holly.
 - C. gold mop.
 - D. Japanese andromeda.

790. **Jack helps set up the community gardens beds as a part of his SAE. What type of SAE does he have?**
- Placement
 - Research
 - School-Based
 - Service Learning
791. **The science and practice of growing, harvesting, storing, processing and marketing vegetables is:**
- floriculture
 - pomology
 - olericulture
 - horticulture
792. **A large, shade-loving evergreen growing in the edge of forests on his last trip to the mountains. If the shrub has dark green leaves that are five inches long and two inches wide and has many large flowers, it is most likely a:**
- Catawba Rhododendron
 - Red Oak
 - Red Maple
 - Japanese Barberry
793. **If a cut flower grower has a \$500, 000 mortgage on her land and buildings, and she owes Farm Credit Service \$60, 000 for this year's mortgage payment, what amount should be entered on the current liability line?**
- \$60, 000
 - \$440, 000
 - \$500, 000
 - \$560, 000
794. **The procedure for growing container stock that Bill uses to shape his azalea plants in the nursery is:**
- fertilizing.
 - liming
 - pruning
 - transplanting
795. **Principles of design for Focal Point are?**
- Balance and equilibrium comparing one part to other parts or to the whole
 - Overall size compared to other flowers, surrounds, or the design itself
 - Area of interest formed by size, color, texture, spacing, shape, etc.
 - Flow or movement of the eye through a design
796. **What type of immersion SAE is Belle completing by growing and selling red worms used to produce compost?**
- entrepreneurship
 - service learning
 - placement
 - invention
797. **Uneek is making leaf cuttings. She must be certain that she cuts the leaf:**
- margin
 - petiole
 - stomate
 - vein
798. **What type Supervised Agricultural Experience is Jose doing if he visits a wholesale nursery and shadows employees to learn about careers?**
- Analytical
 - Entrepreneurship
 - Exploratory
 - Supplementary
799. **What are the two main types of roots?**
- Tap and tape
 - Tap and Fibrous

- C. Long and short
D. none of above
800. **The rising sun is an important part of the FFA emblem because it represents:**
A. agricultural knowledge and wisdom.
B. agricultural opportunity and progress.
C. the hard work associated with agriculture.
D. the national scope of the FFA.
801. **form flowers are used in floral design to:**
A. add mass
B. cover frame
C. create focal point
D. establish outline
802. **Why might propagation via seed be beneficial to vegetative propagation?**
A. It can be less expensive
B. You cannot wait until the plant is fully developed
C. You need to produce plants quickly
D. You may want to produce new varieties that resist disease
803. **The gas form of an insecticide is a ____**
A. Wettable powder
B. Fumigant
C. Granular
D. Concentrate
804. **Victoria spent two hours on Saturday pruning a fruit tree although her Supervised Agricultural Experience program is producing bedding plants in her own greenhouse. In which section of the SAE Record would she enter the fruit tree pruning activity?**
A. analytical
B. experimental
C. placement
D. supplementary
805. **What is a good choice for pencil hardness when drawing landscape designs?**
A. HB-2H
B. 2B-B
C. 2B-HB
D. HB-B
806. **Production and cultivation of fruit and nut crops refers to which of the following?**
A. Floriculture
B. Olericulture
C. Cut flowers
D. Pomology
807. **When a floral design looks too small for the area where it is used, the design principle the floral designer failed to follow is:**
A. accent
B. rhythm
C. scale
D. unity
808. **Which plant has florets on a stalk and is used in floral designs?**
A. Cape jasmine
B. Hetzi holly
C. Japanese flowering cherry
D. Snapdragon
809. **The three main areas of the horticulture industry are ____**
A. plant, water, grow
B. pomology, olericulture, ornamental horticulture
C. growing, sprouting, harvesting
D. horticulture, agriculture, aquaculture

810. **If a plant has holes in the leaves or missing plant parts, it is likely that the damage came from a chewing insect such as a:**
- A. caterpillar or japanese beetle
 - B. aphid or whitefly
 - C. mealybug or caterpillar
 - D. grasshopper or spidermite
811. **Newly planted trees should be stalked to:**
- A. Hold plant straight
 - B. Hold water
 - C. Prevent soil erosion
 - D. provide mulch
812. **Nutrients that a plant needs in large amounts**
- A. Micro Nutrients
 - B. Fertilizer
 - C. Soil
 - D. Macro Nutrients
813. **A pesticide is applied to a hay field at 1/4 quarts per acre. The hayfield is 24 acres in size, how many gallons of the pesticide do we need to use to eradicate the pest? (4 quarts equals 1 gallon)**
- A. 24
 - B. 12
 - C. 6
 - D. 4
814. **Plant production generates how much in the United States?**
- A. More than \$70 billion
 - B. More than \$350 billion
 - C. More than \$150 billion
 - D. More than \$500 billion
815. **Which division of horticulture focuses on vegetables?**
- A. olericulture
 - B. pomology
 - C. agronomy
 - D. floriculture
816. **When storing seeds, it is important to:**
- A. keep seeds in a cool, dry place
 - B. maintain temperatures at 70°F
 - C. provide humidity above 50°F
 - D. place seeds in a plastic zip-lock bag
817. **Which pruning tool should Sarah use to remove 1/4" diameter growth from her azaleas?**
- A. Axe
 - B. Chainsaw
 - C. Hand Shear
 - D. Pole Pruner
818. **Where is the FFA National Convention held?**
- A. Indiana
 - B. Kentucky
 - C. North Carolina
 - D. Missouri
819. **Voice, stage presence, power of expression, response to questions, and general effect are factors used to evaluate the:**
- A. Audience
 - B. Judges
 - C. Oral delivery
 - D. Written speech
820. **A beef cattle farmer using people, resources, and processes to reach a goal is:**
- A. Managing
 - B. Owning
 - C. Planning
 - D. Selling

821. **The green pigment in plants is due to the presence of**
- chlorophyll
 - Chlorine
 - Chlorophyta
 - chromatophores
822. **filler materials used in floral design may be:**
- Baby's breath
 - daisies
 - gladiolus
 - open roses
823. **sprinklers in which the water is distributed in a set pattern over a fixed area**
- sprinkle irrigation
 - spray heads
 - rotary irrigation
 - drip irrigation
824. **Sheri's Supervised Agricultural Experience is to identify an agricultural problem that cannot be solved by experiments. It does involve designing a plan to investigate and analyze the problem. What type of SAE is Sheri working on?**
- analytical
 - entrepreneurship
 - experimental
 - exploratory
825. **What does a biennial plant do in its second year of life?**
- it starts growing
 - it just dies randomly
 - it starts flowering
 - none of the above
826. **Caroline is careful to use tissue culture in laboratory conditions that are aseptic. Therefore, the laboratory environment is:**
- dirty
 - humid
 - pretty
 - sterile
827. **What must happen for a plant to grow seeds?**
- nectar must move from one flower to another
 - an animal must eat the flower
 - pollen must move from flower to flower
 - none of above

1.8 Entomology

- Within minutes of death, odor emitted from a dead body can be detected by blow flies from:**
 - a mile away.
 - a half-mile away.
 - a quarter-mile away.
 - a 50 yard radius.
- What is Zoology?**
 - Study of Aves
 - Study of Mammals
 - Study of Amphibians
 - Study of Animals
- This stage of death is defined huge loss of mass, to the point where only skin and bones are likely to remain**
 - Fresh
 - Bloat / Putrification
 - Active Decay

- D. Dry Remains
4. **Carcass of a dead and decaying animal**
- A. Entomology
 - B. Carrion
 - C. Arthropod
 - D. Taxonomy
5. **___ blowflies are of little forensic value, as it is unclear whether they have just arrived at the scene or have developed on the body.**
- A. adult
 - B. juvenile
 - C. larval
 - D. pupal
6. **An important clue to the condition of a body at death is the location of the ___**
- A. beetles
 - B. heart
 - C. flies
 - D. larval mass
7. **Which skinny insect drains blood from people and causes many diseases?**
- A. PUBG Fly
 - B. Mosquito
 - C. Spotted Lantern Fly
 - D. Apex Legends Wasp
8. **The body loses how many degrees per hour after death**
- A. 1.5 °F
 - B. 2 °F
 - C. 3 °F
 - D. 4 °F
9. **The stage of the fly cycle during which the larvae are voracious feeders is called the ___ stage.**
- A. first instar
 - B. second instar
 - C. third instar
 - D. fourth instar
10. **How does temperature have an effect on insect evidence?**
- A. temp. does not effect insect evidence
 - B. high temp. speeds up insect's life cycle
 - C. low temp. speeds up insect's life cycle
 - D. none of above
11. **the process of recreating a face from skeletal remains (often for the purpose of identification)**
- A. temperature, wind and moisture
 - B. forensic anthropology
 - C. osteobiography
 - D. facial reconstruction
12. **___ is a broad term meaning the application of the study of insects to legal cases.**
- A. Forensic anthropology
 - B. forensic odontology
 - C. forensic pathology
 - D. forensic entomology
13. **What is ADH?**
- A. The number of hours a dead body has been outside
 - B. The number of hours a body has been dead.
 - C. The number of hours it takes for an insect species to become an adult.
 - D. The number of hours it takes for an insect species to develop to a given stage.

14. **Bees and Butterflies are considered ____ ?**
- A. Pests
 - B. Pets
 - C. Pollinators
 - D. Predators
15. **The eastern population of monarch butterflies overwinter in ____**
- A. Florida
 - B. Central Mexico
 - C. Baja California
 - D. Texas
16. **Insects are rare.**
- A. False
 - B. I dont know
 - C. I was sleeping
 - D. I know
17. **Algor mortis stands for**
- A. Telling time of death using body stiffness
 - B. Telling time of death using blood pulling
 - C. Telling time of death using temperature loss
 - D. none of above
18. **How long does it take a blowfly egg to hatch into maggots?**
- A. 1 hour
 - B. 2-4 hours
 - C. 8-10 hours
 - D. 12-24 hours
19. **The third stage of metamorphosis / larva develops into an adult insect.**
- A. Eclosion
 - B. Fly Development Stages
 - C. Pupa
 - D. Larva
20. **Insect evidence should be collected ____**
- A. at the scene by a forensic entomologist or trained investigator.
 - B. upon the finding of the decedent by the first responding officer.
 - C. only from the body.
 - D. at the crime laboratory by forensic analysts.
21. **What is Accumulated Degree Hours (ADH)?**
- A. The number of hours a dead body has been outside.
 - B. The number of hours it takes for an insect species to become an adult.
 - C. The number of hours a body has been dead.
 - D. The number of hours it takes for an insect species to develop to a given stage.
22. **Why do insects have many different types of mouth-parts?**
- A. To speak French
 - B. To eat a variety of different things
 - C. To be annoying
 - D. Because they are all different animals
23. **Nymphs during most of life cycle; after several years, emerge from water as adults, quickly mate and die (few hours or days)**
- A. Odonata- Dragonflies and Damselflies
 - B. Ephemeroptera (Mayflies)
 - C. Plecoptera- Stoneflies
 - D. Megaloptera/Neuroptera: Alderflies and Dobsonflies
24. **to take a corpse's temperature, forensic investigators insert a thermometer into the**
- A. mouth
 - B. liver

- C. armpit
D. stomach
25. **The initial rate of body heat loss shortly after death is about**
A. 0.7 degrees F
B. 1.0 degrees F
C. 1.4 degrees F
D. 2.4 degrees F
26. **Blowfly eggs usually hatch in less than:**
A. 12 hours.
B. 24 hours.
C. 36 hours.
D. 48 hours.
27. **Which of the following would be effected first by rigor mortis?**
A. Upper legs
B. Face
C. Abdomen
D. Lower legs
28. **All of the following features of the skull can be used to determine the sex of a skeleton EXCEPT**
A. shape of the jaw
B. shape of the nasal cavity
C. shape of the eye orbits
D. shape of the forehead
29. **An entomologist needs to know the type of fly ___ and the ___ of the larva in order to help investigators. (Which words best fill in the blanks?)**
A. age; weight
B. species; age
C. actions; smell
D. none of above
30. **Prior to ___ hours after death, algor mortis, livor mortis and rigor mortis are used instead of entomology evidence.**
A. 36
B. 48
C. 72
D. 96
31. **wormlike stage of insect development after egg**
A. larva
B. pupa
C. grub
D. crop
32. **rigor mortis peaks how many hours after death?**
A. 36
B. 18
C. 8
D. 12
33. **Suture Lines on the ___ are helpful in determining the ___ of a victim**
A. skull, age
B. name, number
C. jaw, race
D. none of above
34. **The insect uses what body part to hear**
A. Spiracle
B. Tympanum
C. Ovipositor
D. Compound Eye
35. **Forensic entomologists use insects to gain information about**
A. time since death
B. wounds present
C. drugs/toxins in the body
D. all of the above.

36. **What do the flies eggs hatch into?**
 A. Adult Flies
 B. Pupae
 C. Worms
 D. Maggots
37. **a unit of measure of the energy absorbed by a biological system, causing growth**
 A. degree-day
 B. mites
 C. eclosion
 D. none of above
38. **Loss of body heat after death is known as**
 A. Algor mortis
 B. Rigor mortis
 C. Temperature drop
 D. Liver mortis
39. **The living insect in the stage prior to metamorphosis in the blow fly life-cycle is called the ____**
 A. pupae
 B. pupal case
 C. puparium
 D. none of these
40. **Insect ____ at the crime scene stops the clock on the insects.**
 A. collection
 B. preservation
 C. development
 D. degradation
41. **emergence of an adult from its pupal case**
 A. ambient
 B. mites
 C. eclosion
 D. none of above
42. **What was the name of the video?**
 A. study of how summer is short
 B. PUBG Elmo's World
 C. Study of water
 D. Meet a scientist:NHM Entomologist Elizabeth Long
43. **one of four means by which someone dies**
 A. death
 B. manner of death
 C. cause of death
 D. mechanism of death
44. **The Agonal Period means**
 A. Before Death
 B. Moment of Death
 C. After Death
 D. Period of time between death and when the body is found.
45. **Case 1:Police Report:The body of a female deer was found behind a fence along a busy two-lane road on the edge of the city limits of Charlotte. Animal Control was called and reported no apparent wounds on the body. It was not hunting season.Weather Report:Daytime temperatures have been fairly consistent for the past three weeks, ranging from 70 to 74°F. There were 2 house fly larvae that measure 29 & 20 mm, 2 blow fly larvae at 29 & 25 mm, 1 flesh fly larvae that was 29 mm a skipper fly larvae that was 9 mm and 1 flesh fly pupae that measured 39 mm. Why are there larvae of different ages for the same type of fly found on the body of the deer?**
 A. They measured wrong
 B. The different flies come to the deer at different times.
 C. Adult flies of the same species came to the deer at different times
 D. none of above

46. **During the ____ stage, blow fly larvae are delicate and prone to desiccation.**
- A. first instar
 - B. second instar
 - C. third instar
 - D. fourth instar
47. **one of the three larval stages of insect development**
- A. death
 - B. instar
 - C. pupa/pupae
 - D. autolysis
48. **Which is an example of a pest insect?**
- A. Tick
 - B. Orb Weaver Spider
 - C. Water Bug
 - D. Praying Mantis
49. **During what stage does house flies begin to show up and lay eggs?**
- A. Post-Decay Stage
 - B. Fresh Stage
 - C. Decay Stage
 - D. Bloated Stage
50. **the cessation, or end, of life**
- A. instar
 - B. pupa/pupae
 - C. death
 - D. putrefaction
51. **the immediate reason for a person's death**
- A. death
 - B. mechanism of death
 - C. cause of death
 - D. manner of death
52. **What can entomologists know by studying the insects at a crime scene?**
- A. who the victim is
 - B. PMI
 - C. who probably committed the crime
 - D. the crime autopsy
53. **Abrasion Mark**
- A. A mark produced when a surface slides across another surface
 - B. A mark produced along the edge as a surface is cut
 - C. A mark or impression made by a tool on a softer surface
 - D. Any impression or scratch or impression made when contact occurs between a tool and another object
54. **How can a blowfly help an investigation?**
- A. Helps investigators determine time of death.
 - B. Helps investigators determine how a person was killed.
 - C. Helps investigators determine what the person ate at his/her last meal.
 - D. none of above
55. **application of entomology to civil & criminal legal cases**
- A. forensic entomology
 - B. forensic anthropology
 - C. forensic odontology
 - D. forensic epidemiology
56. **What is done by a medical examiner to determine the cause of death?**
- A. Biopsy
 - B. Autopsy
 - C. Forgery
 - D. Sonogram

57. **Type of animal that is often used to simulate human body in entomology**
- A. Chimpanzee
 - B. Pig
 - C. Goat
 - D. Cow
58. **What is a crop?**
- A. Food we eat.
 - B. A digestive organ used to digest food.
 - C. A digestive organ used for storage of food.
 - D. Respiratory organs of insects.
59. **Forensic entomologists use their knowledge of ____ to help them solve a crime**
- A. Pasta
 - B. Insects
 - C. Painting
 - D. Music
60. **The pelvis of a female is ____ as compared to a male.**
- A. wide and circular
 - B. wide and heart-shaped
 - C. narrow and circular
 - D. narrow and heart-shaped
61. **What does a forensic entomologist study?**
- A. worms
 - B. insects
 - C. spiders
 - D. none of above
62. **This stage begins with the splitting of the skin to allow the gases to escape.**
- A. bloated stage
 - B. post-decay stage
 - C. decay stage
 - D. fresh stage
63. **What is the insect stage after the egg hatches called?**
- A. Pupae
 - B. 1st instar
 - C. 2nd egg stage
 - D. Adult
64. **predictable sequence of changing species that inhabit a decomposing body**
- A. insect succession
 - B. accumulated degree hours (ADH)
 - C. instar
 - D. complete metamorphosis
65. **tiny eight legged creatures belonging to the order acarina, related to spiders and ticks. some mites live freely, others as parasites**
- A. ambient
 - B. mites
 - C. eclosion
 - D. none of above
66. **Application of entomology to civil and criminal legal cases**
- A. Forensic botany
 - B. Forensic Serology
 - C. Forensic Entomology
 - D. Forensic Anthropology
67. **body development in 4 stages:egg, larva, pupa, & adult**
- A. complete metamorphosis
 - B. grub
 - C. oviposition
 - D. spiracles

68. **Why do Forensic entomologists look at blow fly larvae at a crime scene?**
- A. They are the last insects to arrive at a body
 - B. They have the fastest life cycle
 - C. We know the least about their life cycle
 - D. They are the first insects to arrive at the body
69. **What is the life cycle of an insect called**
- A. pupa
 - B. larva
 - C. metamorphosis
 - D. levimorphosis
70. **depositing, or laying, of eggs**
- A. oviposition
 - B. insect succession
 - C. spiracles
 - D. grub
71. **Explain the difference between a cut and a scrape wound.**
- A. A cut is shallow, whereas a scrape is deep.
 - B. An cut has irregular edges and an abrasion is a straight, even wound.
 - C. A cut, or laceration, is a straight, even wound made with a sharp object like a knife or razor blade. A scrape, or abrasion, is caused by sliding impact between the skin and a rough surface.
 - D. A scrape bleeds a lot, whereas a cut bleeds very little.
72. **Aquatic insects spend at least part of their life cycle in or around**
- A. water
 - B. plant life
 - C. salt water
 - D. soil
73. **The insect's body is made up of what three body parts:**
- A. Head, thorax, flagellum
 - B. Head, thorax, abdomen
 - C. Vertebrae, Deltoid, Femur
 - D. Thorax, Anthrax, Typhoid
74. **Insects help forensic investigators determine**
- A. time of death
 - B. whether the body sustained trauma
 - C. whether the body has been moved
 - D. all of these
75. **A body found with no food in the stomach or small intestines has been dead for at least ____ hours**
- A. 2
 - B. 6
 - C. 12
 - D. 24
76. **nonfeeding stage of development between larva & adult**
- A. pupa
 - B. spiracles
 - C. grub
 - D. crop
77. **an elected official who usually has no special medical training.**
- A. medical examiner
 - B. coroner
 - C. forensic anthropologist
 - D. Rokitansky Procedure
78. **What do entomologists learn by studying the insects at a crime scene?**
- A. who the victim is
 - B. PMI
 - C. who probably committed the crime
 - D. the crime autopsy

79. **Pada tahun berapa Rentokil beroperasi di Indonesia**
A. 1999
B. 1989
C. 1979
D. 1969
80. **Why does an infants skeleton contain a higher number of bones?**
A. They are born with many bones that have not fused completely
B. They are mutant ninja babes
C. They are born with bones that eventually turn into cartilage
D. all of the above
81. **What are the two most important insects?**
A. Blowflies and Beetles
B. Bees and Mosquitoes
C. Wasps and Butterflies
D. Ants and Lady Bugs
82. **Predators as nymphs and adults; larvae have unusual mouthparts; help significantly to control mosquito populations**
A. Odonata- Dragonflies and Damselflies
B. Plecoptera- Stoneflies
C. Hemiptera- True Bugs
D. Trichoptera- Caddisfly
83. **Decomposition of a mammal begins at this stage:**
A. post-decay stage
B. bloated
C. fresh stage
D. decay stage
84. **The fact that insect development is ____ allows insects to be used to determine time since death.**
A. irregular
B. predictable
C. constant
D. unpredictable
85. **the spontaneous breakdown of cells as they self-digest**
A. rigor mortis
B. algor mortis
C. pupa/pupae
D. autolysis
86. **Algor mortis is Latin for:**
A. STIFFENING AT DEATH
B. COLORED DEATH
C. COOLING DEATH
D. none of above
87. **Immatures called "hellgramite" (fierce, 3"+long, strong jaws to pinch); Like fast moving water in rocky streams; a dults have giant jaws but they do not pinch**
A. Diptera (Flies)
B. Megaloptera/Neuroptera:Alderflies and Dobsonflies
C. Lepidoptera- Butterflies and Moths
D. Coleoptera- Beetles
88. **A forensic entomologist is ____**
A. A person who studies insects to gain clues about a crime
B. a person who studies bones to gain clues about a crime
C. a person who studies DNA to gain clues about a crime
D. a person who studies fire and arson
89. **Insects such as blowflies tend to lay their eggs in**
A. dry, cold areas
B. dry, warm areas
C. moist, cold areas
D. moist, warm areas

90. **After a meal, the average time it takes for the stomach to empty is**
- 1-2 hours
 - 4-6 hours
 - 8-12 hours
 - 24 hours
91. **Insect stage after the egg hatches**
- 1st instar
 - pupae
 - 2nd egg stage
 - adult
92. **As a dead body decomposes, two gases putrescine and ___ are released that alert blowflies to a possible location to lay their eggs.**
- cadaverine
 - odorless substances
 - proteins
 - oxygen
93. **Insects, or Hexapods, have how many legs?**
- 2
 - 6
 - 8
 - 10
94. **feeding on carrion; from the greek word phagos, to eat, and necro, meaning dead**
- entomology
 - necrophagous
 - carrion
 - none of above
95. **During this stage, beetles begin to colonize the body and consume the dry, less nutrient-rich components.**
- decay stage
 - bloated stage
 - fresh stage
 - post-decay stage
96. **Which of the following is NOT a part of insect development cycle.**
- Pupa
 - Grub
 - Egg
 - Adult
97. **each of the 3 different larval stages of flies in species that undergo complete metamorphosis**
- instar
 - insect succession
 - maggot
 - oviposition
98. **Case 2:Police Report:The body of a large pit bull terrier was found inside a walk-in basement at a home in Cary. Maggots were found concentrated in the head and region behind the shoulder. The windows were closed, although the open curtains allowed sunlight to enter, and the air conditioner was set at 72° F. Weather Report:Daytime temperatures have been variable over the past three weeks, ranging from 75 to 94° F. Skies have been sunny. What effect did the outside temperature have on the development of the larva?**
- It is hot outside so it sped it up.
 - It is hot outside so it slowed it down.
 - It is hot outside, but the dog is inside and the AC is on so it had no effect.
 - It is hot outside, but the dog is inside and the AC is on so it sped it up.

99. **What is insect succession?**
- A. The sequence in which an egg becomes an adult fly.
 - B. A sequence of changing species that inhabit a decomposing body.
 - C. The depositing of eggs.
 - D. When the alpha fly is overthrown by his son.
100. **In general, the older the insects around the dead body are ____**
- A. the longer the body has been dead
 - B. the less time the body has been dead
 - C. the more blood the body lost
 - D. the hotter the temp. around the body is
101. **Which is NOT one of the three body segments of an insect.**
- A. Head
 - B. Legs
 - C. Thorax
 - D. Abdomen
102. **Which stage of mortis results in the changing of color in the body?**
- A. Rigor Mortis
 - B. Algor Mortis
 - C. Liver Mortis
 - D. none of above
103. **the scientific study of insects**
- A. carrion
 - B. entomology
 - C. necrophagous
 - D. none of above
104. **Pooling of blood in the areas of the body closest to the ground is called**
- A. Pooling
 - B. Grounding
 - C. Puddling
 - D. Lividity
105. **Developmental stage of arthropods, generally referring to changes in the size of the larvae**
- A. Metamorphosis
 - B. Moly
 - C. Instar
 - D. Oviposition
106. **When the insect sheds it's exoskeleton, it is known as**
- A. Shedding
 - B. Peeling
 - C. Molting
 - D. Melting
107. **environmental factors that affect insect development**
- A. temperature, wind and moisture
 - B. forensic anthropology
 - C. osteobiography
 - D. facial reconstruction
108. **Blow flies will be the main insects used to determine time since death in the ____ after death.**
- A. first days
 - B. first hours
 - C. first weeks
 - D. first months
109. **This type of mortis includes stiffening of muscles**
- A. Liver mortis
 - B. Rigor mortis
 - C. Algor mortis
 - D. Stiffo mortis

110. **The stage where cells begin to go through autolysis is:**
- A. fresh
 - B. active
 - C. advanced
 - D. dry
111. **Insects belong to the Phylum**
- A. Annelida
 - B. Mollusca
 - C. Chordata
 - D. Arthropoda
112. **How can ADH of insects help in an investigation?**
- A. Provides range for time of death
 - B. Provides exact time of death
 - C. Provides cause of death
 - D. Provides manner of death
113. **If an insect's subesophageal ganglion were paralyzed, it would be unable to ____**
- A. eat
 - B. fly
 - C. walk
 - D. see
114. **Which structures would be found in an eruciform larva, but not in a scarabaeiform larva?**
- A. prolegs
 - B. mandibles
 - C. spiracles
 - D. ocelli
115. **What is the proper name for insects with a hard, outer-body casing and jointed legs?**
- A. mammals
 - B. arthropods
 - C. snails
 - D. crustaceans
116. **stage 1 of decomposition**
- A. fresh stage
 - B. advanced decay
 - C. bloating
 - D. active decay
117. **If you have Hide Beetles on the body which stage of decomposition is the body in?**
- A. Fresh
 - B. Early Putrifaction
 - C. Advanced decay
 - D. Dry or Skeletal
118. **Species That Has Destroyed the US recently**
- A. Japanesse Beetle
 - B. Lady Bug
 - C. Spotted Lanternfly
 - D. Dragon Fly
119. **study of insects & related arthropods**
- A. entomology
 - B. epidemiology
 - C. oncology
 - D. anthropology
120. **a digestive organ used for storage of food**
- A. crop
 - B. maggot
 - C. larva
 - D. instar
121. **An adult fly emerges from the**
- A. Oviposition (egg laying)
 - B. Pupa
 - C. larval mass
 - D. Egg

122. **Pupae will be found in the same areas as — third-instar larvae.**
- A. wandering
 - B. resting
 - C. propagating
 - D. metamorphosing
123. **a given amount of heat needed to develop from one stage of an insect life cycle to the next**
- A. post mortem interval (PMI)
 - B. accumulated degree hour (ADH)
 - C. maggot
 - D. entomology
124. **What color is normal Lividity?**
- A. Red
 - B. Pink
 - C. Purple
 - D. none of above
125. **Which of the following best describes rigor mortis?**
- A. It is the pooling of blood after death
 - B. It is the stiffening of muscles after death
 - C. It is the cooling of the body after death
 - D. none of above
126. **Normal body temperature in degree Celsius is**
- A. 37
 - B. 98
 - C. 24
 - D. 50
127. **breakdown of once living matter by living organisms**
- A. instar
 - B. larva
 - C. decomposition
 - D. insect succession
128. **The blowfly lifecycle has six stages. How many larval stages are included in these six stages?**
- A. 1
 - B. 2
 - C. 3
 - D. 4
129. **How long does it take adult flies to emerge from pupa cases?**
- A. 1-3 days
 - B. 6-8 days
 - C. 10-12 days
 - D. 14-16 days
130. **What is a reason why insect evidence is often not collected?**
- A. Most insect are active at night.
 - B. insect evidence is only found during active decay.
 - C. investigators are often not properly trained to find and collect insects.
 - D. insects can not be found if the body is buried or covered.
131. **Disease, cancer, heart attack and old age would be classified as**
- A. Natural Death
 - B. Suicide
 - C. Homicide
 - D. Accidental Death
132. **How long does it take for rigor mortis to set in?**
- A. immediately after death
 - B. 1-2 hours after death
 - C. 4-6 hours after death
 - D. 8-12 hours after death

133. **The four types of information one needs to know when using maggot evidence are** —
- A. Genus of insect, oldest stage of blowfly, temperature data, and development data
 - B. Species of insect, oldest stage of blowfly, temperature data and development data
 - C. Genus of insect, youngest stage of blowfly, temperature data and development data
 - D. Species of insect, youngest stage of blowfly, temperature data and development data
134. **Weather (temperature and humidity) affects**
- A. the types of insects that colonize remains
 - B. the amount of time an insect takes to develop from egg to adult
 - C. the size of the adult insect
 - D. all of the above
135. **During which stage does the body take on a compressed appearance and give off a powerful odor.**
- A. decay stage
 - B. bloated stage
 - C. fresh stage
 - D. post-decay
136. **Which represents the normal sequence of decomposition?**
- A. fresh, decay, post decay, bloated, dry (skeletal)
 - B. bloated, dry (skeletal), decay, post decay, fresh
 - C. fresh, post decay, bloated, decay, dry (skeletal)
 - D. fresh, bloated, decay, post decay, dry (skeletal)
137. **Which term below is not an example of an open wound?**
- A. bruise
 - B. abrasion
 - C. puncture
 - D. laceration
138. **The nonfeeding stage of development for an insect is what?**
- A. Crop
 - B. Pupa
 - C. Larva
 - D. Instar
139. **A forensic investigator may be able to use — — to determine if a body was moved after death**
- A. Rigor mortis
 - B. Liver mortis
 - C. Algor mortis
 - D. Hyper mortis
140. **# of hours it takes for insect species to develop to a given stage**
- A. accumulated degree hours (ADH)
 - B. insect succession
 - C. instar
 - D. complete metamorphosis
141. **This stage results in the remains consisting primarily of bones, some dried skin and cartilage**
- A. Bloat
 - B. Active Decay
 - C. Advanced Decay
 - D. Dry Skeletal

142. **During this stage house flies begin to appear and deposit eggs**
- A. fresh stage
 - B. post-decay stage
 - C. bloated stage
 - D. decay stage
143. **Entomology is:**
- A. The study of arthropods
 - B. The study of the skin
 - C. The study of arachnids
 - D. The study of insects
144. **The reason someone dies is called the:**
- A. type of death
 - B. manner of death
 - C. cause of death
 - D. mechanism of death
145. **According to forensic entomologists, which "witness" is the first to arrive at the crime scene?**
- A. mite
 - B. spider
 - C. carrion beetle
 - D. blow fly
146. **Which of these is NOT part of the Phylum Arthropoda?**
- A. spiders, mites, ticks
 - B. crabs, lobsters, crayfish, pillbugs
 - C. millipedes, centipedes
 - D. octopi, squid
147. **post-mortem examination**
- A. adipocere
 - B. autolysis
 - C. autopsy
 - D. entomology
148. **During this stage/phase, the larvae stops feeding and travels several feet away from the corpse.**
- A. initial decay
 - B. migration phase
 - C. fresh stage
 - D. bloated stage
149. **How long does it take food to leave the small intestine?**
- A. 2 hours
 - B. 4 hours
 - C. 6 hours
 - D. 12 hours
150. **A legless, eyeless, vermiform larva that is approximately 5 mm in length would probably belong to what insect order?**
- A. Orthoptera
 - B. Odonata
 - C. Siphonaptera
 - D. Blattodea
151. **What is Botany?**
- A. Study of Marines
 - B. Study of Terrestrials
 - C. Study of Plants
 - D. Study of Microbes
152. **The most important specimen collected by a forensic entomologist is:**
- A. the oldest life stage present on the body.
 - B. the number of eggs deposited in the body
 - C. the newest life stage present on the body
 - D. the number of flies on the body.

153. **Developmental process usually involving changes in the animal's form**
- A. Metamorphosis
 - B. Moly
 - C. Instar
 - D. Oviposition
154. **animals characterized by jointed legs, a segmented body, and a hard, nonliving exoskeleton. the exoskeleton does not keep up with the growth of the insect, and so must be shed periodically**
- A. dichotomous
 - B. taxonomy
 - C. arthropods
 - D. none of above
155. **Axillary sclerites form points of attachment for muscles that control the:**
- A. wings
 - B. Legs
 - C. mouthparts
 - D. antennae
156. **Police Report: The body of a large pit bull terrier was found inside a walk-in basement at a home in Cary. Maggots were found concentrated in the head and region behind the shoulder. The windows were closed, although the open curtains allowed sunlight to enter, and the air conditioner was set at 72° F. Weather Report: Daytime temperatures have been variable over the past three weeks, ranging from 75 to 94° F. Skies have been sunny. Do you think the dog died of natural causes?**
- A. Yes, why else would it be in the the basement of a house.
 - B. Yes, flies wouldn't lay eggs in a house any other way.
 - C. No, noone would leave a dead dog in the basement.
 - D. No, the maggots are concentrated in the head and behind the shoulder, not normal openings for flies to go.
157. **concerning the surrounding area or environment**
- A. malt
 - B. instar
 - C. ambient
 - D. none of above
158. **Prior to 72 hours after death, livor mortis, rigor mortis and algor mortis are used instead of ____ evidence.**
- A. anthropological
 - B. odontological
 - C. entomological
 - D. pathological
159. **How is entomology used in crimes**
- A. To prove how Cops only like donuts
 - B. To examine how long the infestation in the body is with how long it is
 - C. To show how crimes are caused by insects
 - D. To show that many crimes use insects in food
160. **wormlike beetle larva**
- A. grub
 - B. crop
 - C. pupa
 - D. maggot
161. **the depositing or laying of eggs.**
- A. instar
 - B. oviposition
 - C. malt
 - D. none of above

162. **the stiffening of the skeletal muscles shortly after death**
- A. livor mortis
 - B. autolysis
 - C. rigor mortis
 - D. algor mortis
163. **Feeding on a dead animal**
- A. Livor Mortis
 - B. Algor Mortis
 - C. Rigor Mortis
 - D. Necrophagous
164. **What is the lowest temperature that insect development will occur?**
- A. 35°
 - B. 45°
 - C. 55°
 - D. 65°
165. **Estimations of the postmortem interval (PMI) using entomological evidence must take into account ____**
- A. the species of insect present
 - B. weather conditions
 - C. geographical locations of the decedent's body
 - D. all of these
166. **What is the body development of an insect in four stages called?**
- A. Insect Succession
 - B. Complete Metamorphosis
 - C. Accumulated Degree Hours
 - D. Oviposition
167. **the classification of things in an orderly way that indicates natural relationships**
- A. dichotomous
 - B. taxonomy
 - C. arthropods
 - D. none of above
168. **Which after death process is permanent?**
- A. ALGOR MORTIS
 - B. LIVOR MORTIS
 - C. RIGOR MORTIS
 - D. none of above
169. **During this stage, the larvae have a feeding frenzy.**
- A. fresh
 - B. bloat
 - C. active
 - D. advanced
170. **Police Report: The body of a large pit bull terrier was found inside a walk-in basement at a home in Cary. Maggots were found concentrated in the head and region behind the shoulder. The windows were closed, although the open curtains allowed sunlight to enter, and the air conditioner was set at 72° F. Weather Report: Daytime temperatures have been variable over the past three weeks, ranging from 75 to 94° F. Skies have been sunny. How do you explain that there are only 2 types of flies on the dog?**
- A. The windows are closed so other flies can't get to the dog
 - B. Blow Flies don't like dog carcasses.
 - C. Flies do not come out in when it is sunny outside.
 - D. none of above
171. **During this stage, predatory/omnivorous organisms like beetles are present.**
- A. bloat
 - B. fresh
 - C. advanced
 - D. dry/skeletal

172. **Which of the following is not a common factor that could have an effect on insect evidence?**
- A. where the body was located
 - B. the weather conditions
 - C. age the person was when they died
 - D. drugs or poisons present
173. **Which of these is NOT true of insects?**
- A. 3 body segments
 - B. 6 pairs of jointed legs
 - C. wings at some point
 - D. belong to Phylum Arthropoda
174. **"divided into two parts"; there, dichotomous keys always give two choices in each step in identifying an organism.**
- A. dichotomous
 - B. taxonomy
 - C. arthropods
 - D. none of above
175. **Rigor mortis peaks at about ____ hours after death**
- A. 2
 - B. 6
 - C. 8
 - D. 12
176. **Heat units required for insect development are ____**
- A. PMI
 - B. ADH
 - C. CODIS
 - D. AFIS
177. **What are wormlike beetle larva called?**
- A. Grub
 - B. Larva
 - C. Pupa
 - D. Maggot
178. **What is the average temperature drop during the first 12 hours after death?**
- A. .25°C every hour
 - B. .50°C every hour
 - C. .75°C every hour
 - D. 1.00°C every hour
179. **The process of transformation from an immature form to an adult form in two or more distinct stages.**
- A. mutation
 - B. metamorphosis
 - C. puberty
 - D. catabolism
180. **Rigor mortis means**
- A. Death stiffness
 - B. Death color
 - C. Death bloat
 - D. Death heat
181. **Rate of cooling helps in determining**
- A. Manner of death
 - B. Time of death
 - C. Place of death
 - D. Cause of death
182. **The insect's skeleton is called**
- A. Exoskeleton
 - B. Endoskeleton
 - C. Red Skeleton
 - D. Halloween Skeleton
183. **In most cases, forensic entomology will only determine a ____ time since death.**
- A. approximate
 - B. maximum
 - C. minimum
 - D. probable

184. **Degree days or degree hours are the number of days/hours multiplied by the number of ____ above a threshold temperature.**
- A. degrees
 - B. months
 - C. days
 - D. weeks
185. **the thigh bone**
- A. femur
 - B. phalanges
 - C. fibula
 - D. frontal bone
186. **wormlike fly larva**
- A. maggot
 - B. crop
 - C. grub
 - D. pupa
187. **In the case of a suspicious or unnatural death a pathologist would conduct a(n)**
- A. Inspection
 - B. Diagnosis
 - C. Pathology
 - D. Autopsy
188. **The life cycle of a blow fly begins with:**
- A. oviposition
 - B. decay
 - C. pupation
 - D. migration phase
189. **What is the highest temperature that insect development will occur?**
- A. 65°
 - B. 75°
 - C. 95°
 - D. 105°
190. **What mineral causes eyes to appear cloudy after death?**
- A. Sodium
 - B. Calcium
 - C. Potassium
 - D. Chloride
191. **SERANGGA MEMPUNYAI BERAPA BILANGAN KAKI**
- A. 8
 - B. 6
 - C. 4
 - D. 2
192. **The majority of native bees nest in what type of habitat?**
- A. flowering plants
 - B. bamboo stems
 - C. trees
 - D. soil
193. **The stage where soft tissues rapidly disappear due to autolysis, bacterial, insect and other animal activity is called?**
- A. Fresh Body Stage
 - B. Bloat Stage
 - C. Putrefaction
 - D. Putrid Dry Remains
194. **A parsley worm is in the order ____ and the adult turns into a ____**
- A. Lepidoptera, cabbage looper
 - B. Coleoptera, weevil
 - C. Lepidoptera, swallowtail
 - D. Diptera, mosquito
195. **The process where cells begin to die**
- A. Bursting
 - B. Cell disintegration
 - C. Autolysis
 - D. Autocleaving

196. **the specific body failure that leads to a person's death**
- A. mechanism of death
 - B. decomposition
 - C. manner of death
 - D. cause of death
197. **Which Arthropod group lives mostly in water?**
- A. Insects
 - B. Arachnids
 - C. Centipedes
 - D. Crustaceans
198. **What does PMI refer to?**
- A. time that has past since the victim was at the scene
 - B. time that has past since the victim died
 - C. time that has past since the suspect was at the scene
 - D. time that has past since the insects arrived at the scene
199. **Which is the most reliable bone to determine the sex of a skeleton?**
- A. Femur
 - B. Skull
 - C. Pelvic bone
 - D. Collarbone
200. **What are the respiratory organs of insects called?**
- A. Pupae
 - B. Crops
 - C. Spiracles
 - D. Instars
201. **Which part of the exoskeleton lies between the exocuticle and the wax layer?**
- A. procuticle
 - B. cement layer
 - C. cuticulin layer
 - D. endocuticle
202. **What is the wormlike stage of insect development after the egg?**
- A. Pupa
 - B. Maggot
 - C. Grub
 - D. Larva
203. **How long does it take for rigor mortis to complete?**
- A. immediately after death
 - B. 1-2 hours after death
 - C. 4-6 hours after death
 - D. 8-12 hours after death
204. **How are entomology and forensic entomology different?**
- A. Entomology studies insects while forensic entomology studies insects in application to civil and criminal legal cases.
 - B. Entomology studies insects in application to civil and criminal legal cases while forensic entomology studies insects.
 - C. Trick! They are both the same.
 - D. This is not the answer.
205. **Species that was known for destroying wildlife about a 6 years ago.**
- A. Chinese Wasp
 - B. Dragonfly
 - C. Japanese Beetle
 - D. Brazilian Beetle
206. **On a decomposed body, the feeding larvae may have human tissue stored in their crops that can be analyzed to determine:**
- A. whether the body was moved after death.
 - B. whether the deceased was exposed to either toxic chemicals or recreational drugs.

- C. whether the body was covered, buried, or submerged in water.
- D. whether the deceased was restrained while alive.
207. **Blowflies, also known as bottle flies, include:**
- A. blue bottles, yellow bottles, and silver bottles.
 - B. brown bottles, green bottles, and bronze bottles.
 - C. blue bottles, green bottles, and bronze bottles.
 - D. blue bottles, green bottles, and silver bottles.
208. **the carcass of a dead and decaying animal**
- A. carrion
 - B. entomology
 - C. arthropods
 - D. none of above
209. **the pooling of the blood**
- A. lividity
 - B. algor mortis
 - C. rigor mortis
 - D. livor mortis
210. **Necrophilous insects are ____**
- A. species such as ants, wasps, and some beetles that feed on the corpse and associated maggots
 - B. beetles, true flies, and wasps that parasitize immature flies
 - C. the first species feeding on corpse tissue
 - D. pill bugs, spiders, and mites that use the corpse as an extension of their habitat
211. **Oviposition is**
- A. the laying of eggs.
 - B. the depositing of dead bodies.
 - C. the area where bugs can be found.
 - D. position of a dead body.
212. **The 3 basic body parts of an insect are:**
- A. head, eyes, tail
 - B. head, wings, legs
 - C. head, abdomen, wings
 - D. head, thorax, abdomen
213. **another name for instar**
- A. post mortem interval (PMI)
 - B. accumulated degree hour (ADH)
 - C. maggot
 - D. entomology
214. **the period of time between time of death and when the body was first discovered**
- A. post mortem interval (PMI)
 - B. accumulated degree hour (ADH)
 - C. maggot
 - D. entomology
215. **The three different larval stages of flies is a what?**
- A. Crop
 - B. Pupa
 - C. Instar
 - D. Spiracle
216. **Use insects to determine time and location of death**
- A. Psychology
 - B. Toxicology
 - C. Pathology
 - D. Entomology

217. **What stage of a fly's life cycle are maggots?**
A. Adult
B. Pupa
C. Larva
D. none of above
218. **The monophagous pest of mango crop is**
A. Mango hopper
B. Mango stone weevil
C. Mango thrips
D. Mango whitefly
219. **What is a maggot?**
A. Wormlike fly larva.
B. Wormlike beetle larva.
C. Wormlike stage of insect development after egg.
D. A wormlike person who has no respect for themselves or others.
220. **The MEANS by which a person dies**
A. Manner of Death
B. Cause of Death
C. Mechanism of Death
D. Time of Death
221. **Which is NOT one of the five Arthropod groups we covered in class?**
A. Insect
B. Crustacean
C. Mantids
D. Arachnids
222. **How long does it take adult flies to lay eggs on a dead body?**
A. 10 hours
B. 18 hours
C. 24 hours
D. 48 hours
223. **biological process in the development of animals, usually involving conspicuous changes in the animal's form or structure**
A. metomorphosis
B. malt
C. instar
D. none of above
224. **Entomologists studies ____**
A. fossils
B. insects
C. animals
D. plants
225. **What does post mortem interval mean?**
A. time that has past since the victim was at the scene
B. time that has past since the victim died
C. time that has past since the suspect was at the scene
D. time that has past since the insects arrived at the scene
226. **The first species to arrive on a dead body is the:**
A. carrion beetle
B. trapdoor spider
C. coffin fly
D. blowfly
227. **cases formed by the hardening of the last larval skin in which the pupa is formed. color starts out white and turns brown with time.**
A. eclosion
B. puparia
C. mites
D. none of above

228. **Exoskeletons are made from ____**
- A. Hair
 - B. Bone
 - C. Nails
 - D. Chitin
229. **In centipedes, the “fangs” are what type of structure?**
- A. mandibles
 - B. modified legs
 - C. maxilla
 - D. modified mouthparts
230. **Which is not one of the two major types of insects entomologists observe?**
- A. bees
 - B. flies
 - C. beetles
 - D. none of above
231. **In what kingdom are maggots classified?**
- A. Plants
 - B. Animals
 - C. Fungi
 - D. none of above
232. **Which of the following is the correct order of the life cycle of a blow fly?**
- A. egg, pupa, larva (1st instar, 2nd instar, 3rd instar), adult
 - B. larva, egg, pupa, adult
 - C. adult, larva (1st instar, 2nd instar, 3rd instar), egg
 - D. egg, larva (1st instar, 2nd instar, 3rd instar), pupa, adult
233. **What is the name for the forensic scientist that studies insects?**
- A. Anthropologist
 - B. Entomologist
 - C. Toxicologist
 - D. Botanist
234. **What is the body development in four stages called?**
- A. Insect Succession
 - B. Complete Metamorphosis
 - C. Accumulated Degree Hours
 - D. Oviposition
235. **Did you have fun?**
- A. Yessssssssssssssss
 - B. I was playing Fortnite, PUBG, Apex Legends
 - C. I was taking a nap
 - D. I was watching Frozen 2
236. **One type of insect typically arrives within minutes after death. Therefore this type of insect is considered to be timekeepers for postmortem intervals. Which type of insect is this?**
- A. sexton beetle
 - B. blowflies
 - C. flesh flies
 - D. houseflies
237. **This stage occurs because of the activity bacteria which produces gases inside the body.**
- A. post-decay stage
 - B. decay stage
 - C. fresh stage
 - D. bloated stage
238. **the story of a persons life as told by his or her bones**
- A. temperature, wind and moisture
 - B. forensic anthropology
 - C. osteobiography
 - D. facial reconstruction

239. **What is Entomology**
- A. Study of cats
 - B. Study of Fortnite, PUBG, and Apex Legends
 - C. Study of Insects
 - D. Study of school
240. **the shedding of an insects outer skeleton during a growth stage**
- A. metamorphosis
 - B. molt
 - C. instar
 - D. none of above
241. **Immature form of an animal that looks different from the adult (Ex. Maggot, Tadpole)**
- A. Eclosion
 - B. Fly Development Stages
 - C. Pupa
 - D. Larva
242. **The stage where gasses released by bacteria causes the body to swell is called?**
- A. Fresh Body Stage
 - B. Bloat Stage
 - C. Putrefaction
 - D. Putrid Dry Remains
243. **Insects that pass through the egg, larva, pupa, and adult stages in their life cycle have ____**
- A. incomplete metamorphosis
 - B. no metamorphosis
 - C. complete metamorphosis
 - D. gradual metamorphosis
244. **What is the definition of Pathology?**
- A. The branch of medicine concerned with diseases.
 - B. The scientific study of the nature, origin, process, and cause of disease.
 - C. The branch of medicine which deals with the incidence, distribution, and possible control of diseases.
 - D. The study of life.
245. **Cause of death refers to**
- A. When a person died
 - B. The reason they died
 - C. Who killed them
 - D. Specific body part failure
246. **Term that refers to the larval stage of a fly**
- A. egg
 - B. maggot
 - C. pupa
 - D. adult
247. **The stage where skin and soft tissues are no longer present is called?**
- A. Fresh Body Stage
 - B. Bloat Stage
 - C. Putrefaction
 - D. Putrid Dry Remains
248. **Crustaceans are a good source of ____ for humans.**
- A. Food
 - B. Fear
 - C. Fun
 - D. Pets
249. **Normal body temperature is**
- A. 96.5 °F
 - B. 97.2 °F
 - C. 98.6 °F
 - D. 100 °F

250. **the study of human remains (often bones) to aid in legal investigations**
- A. temperature, wind and moisture
 - B. forensic anthropology
 - C. osteobiography
 - D. facial reconstruction
251. **Necrophages are ____**
- A. species such as ants, wasps, and some beetles that feed on the corpse and associated maggots
 - B. beetles, true flies, and wasps that parasitize immature flies
 - C. the first species feeding on corpse tissue
 - D. pill bugs, spiders, and mites that use the corpse as an extension of their habitat
252. **The nonliving part of the insect in the stage prior to metamorphosis in the blow fly life-cycle is called the:**
- A. pupae
 - B. pupal space
 - C. puparium
 - D. none of these
253. **How many hours does it take livor mortis to be fully settled? (Choose the best answer choice)**
- A. Five hours
 - B. 12 hours
 - C. Two hours
 - D. Six hours
254. **The major variable in the fly's life cycle is ____**
- A. moisture
 - B. pressure
 - C. temperature
 - D. barometer
255. **The study of insects is**
- A. anthropology
 - B. pathology
 - C. entomology
 - D. zoology
256. **How are insects helpful?**
- A. Help you not be single
 - B. Help you study for the upcoming exam
 - C. Helpful in real life events
 - D. Helps cure Pewdiepie from T-Series
257. **What is the reason for autopsy?**
- A. Candy
 - B. Old age
 - C. Unnatural cause
 - D. Declined by family
258. **Time elapsed since death**
- A. Post Mortem Interval
 - B. Putrefaction
 - C. Adipocere
 - D. Ambient
259. **The entomologist must be able to identify the ____ of blow fly because each ____ develops at a different rate.**
- A. family
 - B. genus
 - C. order
 - D. species
260. **The insect has two metamorphosis types. What are they?**
- A. Annual, Complete
 - B. Incomplete, Perennial
 - C. Incomplete, Complete
 - D. Complete, Transformation

261. **the process of rotting and break down**
- A. rigor mortis
 - B. decomposition
 - C. livor mortis
 - D. putrefaction
262. **respiratory organs of insects that are used by researchers to identify a larval stage as first, second or third instar**
- A. spiracles
 - B. crops
 - C. maggots
 - D. instars
263. **Decomposition begins at this stage.**
- A. advanced decay
 - B. bloat
 - C. fresh
 - D. active decay
264. **Which is the correct sequence of developmental stages for blowflies?**
- A. egg, larvae, pupa, adult
 - B. egg, second instar, 3rd instar, pupa, adult
 - C. egg, pupa, maggot, adult
 - D. 1st instar, 2nd instar, 3rd instar, pupa, adult
265. **Name means "case-bearer". Build cases from materials in rivers (pebbles, leaf litter, twigs, etc.). Most cases about 1.5 cm long.**
- A. Diptera (Flies)
 - B. Coleoptera- Beetles
 - C. Trichoptera- Caddisfly
 - D. Lepidoptera- Butterflies and Moths
266. **Blister beetles have what substance in their bodies that can be toxic to livestock?**
- A. serotonin
 - B. chitin
 - C. cantharadin
 - D. resilin
267. **the cooling of body temperature after death**
- A. rigor mortis
 - B. algor mortis
 - C. livor mortis
 - D. autolysis
268. **Carion beetles prefer**
- A. corpse in stage 1 decomposition
 - B. corpse in a dry stage, as well as eggs & larvae of other insects
 - C. corpse in any stage of decomposition
 - D. just the eggs & larvae of other insects
269. **The three levels of certainty are ____, ____, and ____**
- A. possibility, consistency, certainty
 - B. maybe, possibly, probably
 - C. probability, consistency, certainty
 - D. probability, consistency, absolutely
270. **the time elapsed since a person has died**
- A. postmortem interval (PMI)
 - B. carrion
 - C. entomology
 - D. none of above
271. **the study of insects**
- A. post mortem interval (PMI)
 - B. accumulated degree hour (ADH)
 - C. maggot
 - D. entomology

272. **This stage occurs when the body becomes distended and the splitting of the skin allows bad smelling gases to escape.**
- A. bloated stage
 - B. post-decay stage
 - C. decay stage
 - D. fresh stage
273. **the stage in an insect's life cycle when the larva forms a capsule around itself and transitions into its adult form**
- A. instar
 - B. pupa/pupae
 - C. larva/larvae
 - D. death

1.9 Plant Pathology

1. **Indian Cassava Mosaic virus is transmitted by**
 - A. Aphids
 - B. Whitefly
 - C. Thrips
 - D. Green Leafhopper
2. **Pick up the odd one.**
 - A. Amphitrichous
 - B. Ammonotrichus
 - C. Lophotrichous
 - D. Peritrichous
3. **Among the following, in which culture technique the chance of contamination is minimum?**
 - A. batch culture
 - B. fed-batch culture
 - C. continuous culture
 - D. discontinuous culture
4. **Find out the advantage of turbidostat device?**
 - A. open culture device
 - B. photoelectric device
 - C. no need for current supply
 - D. cell density increases
5. **Which plant pathogen structure is delicate, threadlike filaments called hyphae**
 - A. fungi
 - B. nematodes
 - C. algae
 - D. virus
6. **In which phase of growth curve, the cells undergoing division is equal to the number of cell death?**
 - A. lag phase
 - B. log phase
 - C. stationary phase
 - D. decline phase
7. **Bacterial ooze is an example of ____**
 - A. Signs
 - B. symptoms
 - C. both
 - D. none
8. **What is a pure culture?**
 - A. a mixed group of colonies
 - B. a group of few dis-similar bacteria
 - C. a colony of single bacterium
 - D. only one bacterium
9. **In Resazurin quality test for milk ____ colour indicates excellent quality milk**
 - A. Blue
 - B. Pink
 - C. Purple
 - D. White

10. **Bhendi Yellow Vein Mosaic virus is transmitted by**
- A. Aphids
 - B. Whitefly
 - C. Thrips
 - D. Leafhopper
11. **Visible effects of disease on plants are called ____**
- A. Signs
 - B. symptoms
 - C. both
 - D. none
12. **Banana Bunchytop virus is transmitted by**
- A. Aphids
 - B. Whitefly
 - C. Thrips
 - D. Green Leafhopper
13. **What is the other name for fermenter?**
- A. Oxidation pond
 - B. bioreactor
 - C. biosensor
 - D. Oximeter
14. **Water purification can be done using ____**
- A. sugar
 - B. salt
 - C. vinegar
 - D. liquid chlorine bleach.
15. **In which technique, the 'L rod' is used?**
- A. streak plate method
 - B. spread plate method
 - C. serial dilution method
 - D. pour plate method
16. **Mention the different sources of potable water**
- A. ground water
 - B. snow pack water
 - C. spring water
 - D. all of these
17. **Pathogen can survive in**
- A. Crop residue
 - B. weeds
 - C. seeds
 - D. all of these
18. **What is the shape of *Bacillus cereus***
- A. Diplococci
 - B. Spirochetes
 - C. Coccobacilli
 - D. Single rods
19. **Pasteurization is heating every particle of milk to ____ °C to 30 minutes.**
- A. 73
 - B. 63
 - C. 53
 - D. 103
20. **Tomato spotted wilt virus is transmitted by**
- A. Aphids
 - B. Whitefly
 - C. Thrips
 - D. Green Leafhopper
21. **Plant pathogen includes**
- A. fungi
 - B. bacteria
 - C. viruses
 - D. all the above

22. **Find out the correct choice of events of 'lag phase'?**
- A. start synthesising the necessary proteins and start dividing
 - B. cellular metabolism is accelerated and start dividing
 - C. adapt to the environment
 - D. cellular metabolism is accelerated and the cells are increasing in size
23. **Rice tungro virus is transmitted by**
- A. Aphids
 - B. Whitefly
 - C. Thrips
 - D. Green Leafhopper

1.10 Plant Breeding

1. **The new varieties of plants are produced by**
- A. Introduction and mutation
 - B. Selection and hybridisation
 - C. Mutation and Selection
 - D. Selection and Introduction
2. **Bagging is done to**
- A. Avoid cross pollination
 - B. Avoid self pollination
 - C. Achieve desired pollination
 - D. Prevent contamination from foreign pollen
3. **Pusa komal is resistant to**
- A. Bacterial blight
 - B. Black rot and Curl
 - C. White rust
 - D. Hill burnt
4. **Concept of Progeny testing was introduced by**
- A. Van der Plank
 - B. Vimorin
 - C. M.S. Swaminathan
 - D. Thomas Fairchild
5. **Which of the following is NOT a normally self pollinated crop?**
- A. Barley
 - B. Wheat
 - C. Ragi
 - D. Cotton
6. **Law of homologous series of variation states that character found in one species also occur in other**
- A. Unrelated species
 - B. related species
 - C. related genus
 - D. unrelated genus
7. **The region of domestication for Asian rice is ___ river**
- A. Balsas
 - B. Yangtze
 - C. Niger
 - D. Indus
8. **Breeding for disease resistance requires**
- A. a good source of resistance
 - B. Planned hybridisation
 - C. Diseases test
 - D. all of these
9. **Triple fusion leads to formation of**
- A. Embryo
 - B. PMC

- C. Endosperm
D. MMC
10. **The main nodal agency for plant introduction in India is**
A. IPGRI
B. CRRRI
C. NBPGR
D. DRR
11. **A technique of micropropagation is**
A. Multiple root production
B. Somatic embryogenesis
C. Growth of micro organisms on culture medium
D. Multiple shoot production and embryo rescue
12. **What does GDP stands for?**
A. General Disorder of Pancreas
B. Gross Domestic Product
C. Good Domestic Price
D. Goods Delay Price
13. **Polyploidy is induced through**
A. Irradiation
B. Mutagenic chemicals
C. Ethylene
D. Colchicine
14. **In 700B.C. Assyrians and Babylonians hand pollinated**
A. Maize
B. Wheat
C. Date palms
D. Coconut
15. **Which of the following is example for Often cross pollinated crop?**
A. Sorghum
B. Almond
C. Banana
D. Cherry
16. **Example of often cross pollinated crop is**
A. Maize
B. Rice
C. Pearl millet
D. Sorghum
17. **Nobel prize for green revolution was given to**
A. .M.S. Swaminathan
B. Borlaug
C. Thomson
D. Johannesberg
18. **The term geitonogamy refers to ____**
A. Pollination within same flower of same plant
B. Pollination with different flower of same plant
C. Pollination with different flower of different plant
D. None of the above
19. **Who proposed the centres of Origin theory?**
A. Mendel
B. Hopkins
C. Vilmorin
D. Vavilov
20. **The entire collection (of plants/seeds) having all the diverse alleles for all genes in a given crop is called**
A. Protoplasm
B. Collection of variability
C. Germplasm collection
D. Plant collection

21. **Consider the statement (s) related to the green revolution:1) Increasing agricultural production by incorporating modern tools and techniques.2) New high - yielding varieties of wheat were developed by Prof. Norman Borlaug & were adopted by a number of countries.Which of the following is/are correct statement (s)?**
- A. Only 1
 - B. Only 2
 - C. Both 1 and 2
 - D. Neither 1 nor 2
22. **A scientist wants to study the viral effects on plants. Which of the following part of the plant should be excluded?**
- A. pith
 - B. shoot apex
 - C. phloem
 - D. cortex
23. **The quickest method of plant breeding is**
- A. introduction
 - B. Selection
 - C. Hybridisation
 - D. Mutation Breeding
24. **Medicago sativa is a**
- A. Normally self pollinated crop
 - B. Normally Cross pollinated crop
 - C. Often cross pollinated crop
 - D. both a & b
25. **Polyploidy can be induced using**
- A. Hormones
 - B. GAA
 - C. IAA
 - D. Colchicines
26. **Johanssen pureline theory was on the basis of studies on**
- A. Phaseolus vulgaris
 - B. Pisum sativum
 - C. Lablab purpureus
 - D. Vigna mungo
27. **Why is bagging done?**
- A. To avoid cross pollination
 - B. To avoid self pollination
 - C. To achieve desired pollination
 - D. To prevent contamination from foreign pollen
28. **The term centres of origin was coined by**
- A. Harlan de wet
 - B. Vavilov
 - C. Zhukovsky
 - D. Johanssen
29. **Which of the following crop is not part of High - Yielding Varieties Programme?**
- A. Rice
 - B. Wheat
 - C. Jowar
 - D. Pulses
30. **Thale Cress is an example of**
- A. Inbreeding
 - B. Hybrid breeding
 - C. Genetic engineering
 - D. none of above
31. **Concept of gene for gene hypothesis proposed by**
- A. Nelson
 - B. Flor
 - C. Vander plank
 - D. Robinsion

32. In ____, resistance to yellow mosaic virus and powdery mildew were induced by mutations
- A. Mung bean
 - B. Brassica
 - C. Cauliflower
 - D. Wheat
33. 'Fairchild' is the first artificial hybrid of
- A. Carnations and Sweet William
 - B. Daisy and Rose
 - C. Sunflower and Rose
 - D. Rose and Chrysanthemum
34. Nobilisation of cane refers to
- A. S. spontaneum
 - B. S. indicum
 - C. S. officinarum
 - D. S. barberi
35. Who is the father of Green Revolution in India?
- A. Satyendra Nath Bose
 - B. Srinivasa Ramanujan
 - C. M.S. Swaminathan
 - D. Vikram Sarabhai
36. The source of dwarfing gene sd1 in rice is
- A. IR 8
 - B. Dee-gee-woo-gen
 - C. ADT 27
 - D. Peta
37. Somatic hybridisation is achieved through
- A. Grafting
 - B. Conjugation
 - C. Protoplast fusion
 - D. Recombinant DNA technology
38. Backcrossing involves crossing
- A. Parent and parent
 - B. Hybrid and hybrid
 - C. Parent and hybrid
 - D. none of above
39. Who discovered the unit factors of inheritance by doing series of plant hybridisation experiments in 1866?
- A. John Hopkins
 - B. Muller
 - C. Mendel
 - D. Hardy
40. Which of the following is not the main step in carrying out plant breeding technique?
- A. Collection of variability
 - B. Cross hybridization among the diseased parents
 - C. Selection and testing of superior recombinants
 - D. Evaluation and selection of parents
41. The noble-laureate that successfully crossed and produced the semi dwarf wheat hybrid is:
- A. Norman E Borulag
 - B. M.S. Swaminathan
 - C. Kalyan Sona
 - D. Jaya Ratna
42. Identify the bacterial disease from the following
- A. Turnip Mosaic disease
 - B. Black rot of crucifers
 - C. red rot of sugar cane
 - D. rusts
43. Plant breeding is the ____ of plants in order to create desired plant types.
- A. Breeding

- B. Manipulation
C. Crossing
D. none of above
44. **In which of the following states did the Green revolution in India first introduced?**
A. Uttarakhand
B. Uttar Pradesh
C. Punjab
D. Karnataka
45. **The centre of origin for Coffee and Sesame is**
A. Hindusthan
B. Abyssinian
C. Mexican
D. China
46. **In homomorphic system of Self incompatibility, incompatibility due to phenotype of pollen is termed as**
A. Gametophytic SI
B. Sporophytic SI
C. Distyly
D. Tristyly
47. **Agriculture accounts for ____ per cent of India's GDP**
A. 62
B. 30
C. 33
D. 70
48. **Mechanisms that promote cross pollination in maize is**
A. Dioecious
B. Monoecious
C. Protogyny
D. Cleistogamy
49. **Pure line breed refers to**
A. heterozygosity only
B. homozygosity only
C. homozygosity and self assortment
D. heterozygosity and linkage
50. **The centre of origin for Maize is**
A. Hindusthan
B. Abyssinian
C. Mexican
D. China
51. **The botanical name of Sugarcane is:**
A. Oryza sativum
B. Saccharum barberi
C. Pisum Sativum
D. Triticum
52. **A pureline is the progeny of a single self fertilised**
A. heterozygous line
B. homozygous plant
C. heterozygous plant
D. homozygous line
53. **Himgiri is a hybrid variety of**
A. Chilli
B. Cauliflower
C. Cowpea
D. Wheat

1.11 Plant Genetics

1. **How did Mendel refer to the two kinds of traits exhibited by the pea plants (one coming from the father, one from the mother)?**
 - A. Gametogenic
 - B. Elective traits
 - C. Alleles
 - D. Sequals
2. **This stalk supports the stigma.**
 - A. filament
 - B. style
 - C. ovary
 - D. anther
3. **Mendel did test crosses. What is the purpose of a test cross?**
 - A. to determine the parents phenotype (appearance)
 - B. to determine the parents genotype
 - C. to determine the chance of producing a particular trait from 2 parents
 - D. to determine how many offspring can be produced by 2 parents
4. **At the very beginning of seed germination how will the mass of a seed change?**
 - A. It will increase slightly
 - B. It will decrease
 - C. It stays the same
 - D. It will increase significantly
5. **Stimulus** ____
 - A. A change that prompts an action-the cause
 - B. The ability to maintain a stable internal environment (type of equilibrium or balance)
 - C. How an organism reacts to a change and results in a change in behavior- the effect
 - D. Constant and balanced environment
6. **Mendel realized that organisms get ____ of their genetics from each parent.**
 - A. 1/4
 - B. 1/3
 - C. 1/8
 - D. 1/2
7. **Before Mendel how did people think you got your traits**
 - A. equal from each parent
 - B. more from the dad
 - C. more from the mom
 - D. from a stork
8. **An example of a genetic trait in humans is:**
 - A. Being left handed or right handed.
 - B. Being happy or sad.
 - C. Having one brother and one sister.
 - D. Having a weight problem.
9. **What were the reasons Mendel selected the pea plant for his genetics experiments? Pick as many as apply.**
 - A. few traits
 - B. traits easy to observe
 - C. grow quickly
 - D. all of these
10. **The male part of the flower is ____**
 - A. pistil
 - B. sepal
 - C. ovaries
 - D. stamen
11. **Define Genome Editing**
 - A. Technology that allows the development of new genes
 - B. Technology that allows the growth of new organs in a lab
 - C. Technology that allows a change to an organism's DNA.
 - D. none of above

12. **If a pea plant's alleles for height are tt, what is true of its parents?**
- A. both parents were tall
 - B. both parents were short
 - C. both parents contributed a recessive allele
 - D. both parents contributed a dominant allele
13. **Contain a plant's male reproductive cell**
- A. Stamen
 - B. Pollen
 - C. Style
 - D. Stigma
14. **A root grows downward in a response to an ____ stimulus**
- A. external
 - B. internal
 - C. phototropism
 - D. geotropism
15. **Heredity is the passing of traits from ____ to ____**
- A. predators to prey
 - B. water to rain
 - C. parents to offspring
 - D. fungi to protists
16. **The different forms of genes are known as**
- A. environment
 - B. probability
 - C. traits
 - D. alleles
17. **What is the response of a plant that is further away from the window?**
- A. Growing towards the light
 - B. Growing away from gravity
 - C. Growing toward moisture
 - D. none of above
18. **A calf with a pair of white genes is all white, a calf with red genes is red, and a calf with one white and one red gene has a roan coat. If two red cows have four calves, what color are the calves?**
- A. Two red and two roan
 - B. One red, one white and two roan
 - C. Four roan
 - D. Four red
19. **What does the term "open pollination" mean?**
- A. pollination between two plants of the same species naturally by wind/insect or water
 - B. The transfer of pollen by a technician from one plant to another
 - C. The transfer of seeds from a plant
 - D. none of above
20. **Asexual plant reproduction requires:**
- A. Only one organism.
 - B. A male and a female.
 - C. A clone.
 - D. A pistil and a stamen.
21. **Tigers and household cats are members of the same family. Their sizes and other features are very different. What is the cause of the differences?**
- A. biochemical makeup
 - B. domestication
 - C. genetics
 - D. habitat
22. **What is a Molecular marker?**
- A. Are used to select a plant for a specific trait if it has a desirable gene in its DNA
 - B. Are used to highlight an important piece of information on a book
 - C. are used to select a plant for a specific group of cells

- D. none of above
23. **A plant's root grow in a downward direction in response to what force?**
- A. sunlight
 - B. gravity
 - C. soil
 - D. turgor pressure
24. **The pollen grains are found in this part of the stamen.**
- A. anther
 - B. style
 - C. pistil
 - D. none of above
25. **What plant substance turns plants green and helps the plant capture light?**
- A. Eosinophil
 - B. Chlorophyll
 - C. Slime
 - D. Pollen
26. **When a seedling emerges upright from the soil, which force is it overcoming?**
- A. Gravity
 - B. Magnetism
 - C. Repulsion
 - D. Heat
27. **In a seed, the plumule grows into ____**
- A. The shoot
 - B. The leaves
 - C. The roots
 - D. The branch
28. **The Wisconsin Fast Plant is from what species of plant?**
- A. Dandelion
 - B. Brassica
 - C. Sapien
 - D. Diffenbachia
29. **A student places a plant in a dark room next to a growth lamp, while providing sufficient water and nutrients to ensure the plant's growth and survival. The plant is likely to respond by-**
- A. bending towards the lamp.
 - B. wilting and eventually dying.
 - C. shedding all of its leaves.
 - D. increasing its rate of photosynthesis
30. **The physical appearance or the way a gene looks is known as it's ____**
- A. genotype
 - B. allele
 - C. gene
 - D. phenotype
31. **All living things receive ALL their genetic traits from their:**
- A. Parents.
 - B. Mother.
 - C. Father.
 - D. Brother.
32. **Plants take in carbon dioxide from the air and give off:**
- A. Oxygen.
 - B. Nectar.
 - C. Sugar.
 - D. Steam.
33. **What is the name of the tiny plant inside a seed?**
- A. Nectar
 - B. Fruit
 - C. Stem
 - D. Embryo

34. **An allele or gene that always shows is**
- A. recessive
 - B. dominant
 - C. hidden
 - D. present
35. **What two types of asexual reproduction are the MOST similar?**
- A. Runners and tissue cultures
 - B. Bulb and corms
 - C. Clones and cell cultures
 - D. Rhizomes and cuttings
36. **When a plant wilts due to a drought, it is responding to which of the following internal stimuli?**
- A. Decreased water pressure within the plant cells.
 - B. lack of nutrients carried by water in the plant.
 - C. Decreased rate of photosynthesis in the stem.
 - D. Increased storage of glucose in the leaves.
37. **Brightly colored parts of flowers that attract insects.**
- A. petals
 - B. pistils
 - C. stamen
 - D. filaments
38. **Gravitropism and ____ are the same thing.**
- A. Geotropism
 - B. Phototropism
 - C. Thigmotropism
 - D. Triangular Prism
39. **The plants that Gregor Mendel crosses to produce the F1 generation would be referred to as**
- A. P1 and P
 - B. P1 and P3
 - C. P1 and P5
 - D. P1 and P2
40. **Turgor pressure can help plants move. Internal water pressure can cause-**
- A. a wilted stem to return to an upright position.
 - B. leaves to fall off a tree in the autumn.
 - C. the roots of a plant to grow downward.
 - D. a seedling to be carried by the wind.
41. **Each pea plant had ____ alleles for each trait.**
- A. 1
 - B. 2
 - C. 3
 - D. 4
42. **Changes in an organism's environment that cause a response**
- A. Tropism
 - B. Hormone
 - C. Stimuli
 - D. Response
43. **____'s principles can be used to study heredity in dogs, cats, and sheep.**
- A. Darwin
 - B. Mendel
 - C. Franklin
 - D. Smith
44. **Yy is an example of ____**
- A. A heterozygous phenotype
 - B. A heterozygous genotype
 - C. A homozygous phenotype
 - D. A homozygous genotype

45. **Gregor Mendel's principles of genetics apply to**
- A. plants only
 - B. animals only
 - C. pea plants only
 - D. all organisms that reproduce sexually
46. **What plant is an example of a tuber?**
- A. Spider plant
 - B. Geranium
 - C. Irish potato
 - D. Onion
47. **Roots grow downward in the soil in response to-**
- A. gravity
 - B. sunlight
 - C. water
 - D. wind
48. **What did Mendel call the two kinds of traits exhibited by the pea plants (one coming from the father, one from the mother)?**
- A. Genesis
 - B. Elective traits
 - C. Alleles
 - D. Quadrants
49. **Jennie's friend, Molly, has a beautiful African violet. Molly removes a stem and leaves from the African violet and puts it in soil, hoping to grow an African violet for Jennie. This is an example of what type of asexual reproduction?**
- A. Cloning
 - B. Creeping
 - C. Cuttings
 - D. Canteens
50. **A rhizome is a(n):**
- A. Plant cutting.
 - B. Underground stem.
 - C. Flower.
 - D. Bulb.
51. **To indicate if a trait is dominant we use ____ letters and to indicate if a trait is recessive we use ____ letters.**
- A. recessive, dominant
 - B. dominant, recessive
 - C. recessive, neutral
 - D. dominant, neutral
52. **What organism did Mendel use to prove his 3 main ideas about inheritance?**
- A. ants
 - B. pigeons
 - C. dogs
 - D. pea plants
53. **The pollen grains are found and made in this part of the stamen.**
- A. Anther
 - B. Style
 - C. Stigma
 - D. Ovary
54. **In the fall of the year, the days get shorter and trees change colors. Why do leaves change their colors?**
- A. Because they dry up.
 - B. They stop making chlorophyll.
 - C. They become coated with colorful algae.
 - D. The air temperature causes the color change
55. **Homeostasis ____**
- A. A stimulus from inside an organism
 - B. How an organism reacts to a change

- C. The ability to maintain a stable internal environment (type of equilibrium or balance)
- D. A stimulus from outside an organism
56. **___ is the field of science that studies of how traits are passed on, or inherited.**
- A. dominant traits
- B. ratio
- C. phenotype
- D. genetics
57. **Define genetic modification**
- A. Altering the physical features of an animal
- B. Altering an organism's amount of cells
- C. Altering an organism's DNA to improve or correct a defect in the organism
- D. none of above
58. **ONE cell from a carrot taproot is put into a tube of water with plant nutrients, and can regenerate into an entire plant. This is an example of a:**
- A. Clone.
- B. Runner.
- C. Cell culture.
- D. Throat culture.
59. **Which of the following terms best defines genomic selection**
- A. Use of thousands of genetic markers associated with genes to predict the performance of an animal
- B. Use of thousands of genetic markers associated with genes along with performance tested animals as references to predict the potential performance of an animal
- C. DNA profiling of an animal
- D. The use of a crystal ball to predict the performance of an animal
60. **A stimulus is ___**
- A. a change in an organisms surroundings.
- B. process in which organisms grow larger.
- C. a reaction to a change in surroundings
- D. tropism
61. **What is this definition of: determining differences in the genotype of an individual organism by examining its DNA & comparing it to a reference sequence of another organisms sequence.**
- A. Phototyping
- B. Genotyping
- C. Progeny testing
- D. Genetic engineering
62. **If a plant is going towards water it is showing**
- A. Positive hydrotropism
- B. Positive Geotropism
- C. Negative hydrotropism
- D. Positive Solar Radiation
63. **What does the term Genome mean?**
- A. An organisms cells
- B. An organism's complete set of DNA
- C. An organisms gene on one chromosome
- D. none of above
64. **What is progeny testing**
- A. Testing an animals performance for different traits
- B. Comparing animals off spring with other animals off spring kept in the same conditions
- C. Comparing an animal with other animals kept in the same conditions

- D. Comparing animals off spring with other animals off spring kept in the different conditions
65. **Which amongst these is NOT a part of PISTIL**
- A. stigma
 - B. stamen
 - C. style
 - D. ovary
66. **Mr Burns' favourite flower is**
- A. Roses
 - B. Bluebells
 - C. Daffodils
 - D. Foxgloves
67. **What is performance testing**
- A. Testing the performance of an animal in the same conditions to other animal kept in the same condition
 - B. Testing how an animal would perform in a play!
 - C. Testing the performance of an animal in the same conditions to its offspring kept in the same condition
 - D. none of above
68. **If a pea plant has a recessive allele for green peas, it will produce**
- A. green peas if it also has a dominant allele for yellow peas
 - B. green and yellow peas if it has a dominant allele for yellow
 - C. green peas if it doesn't have a dominant allele for yellow peas
 - D. yellow peas if it doesn't have a dominant allele for green peas.
69. **The pistil is the:**
- A. Part of the plant where flowers first appear.
 - B. Part of the flower that breathes.
 - C. Female part of the flower.
 - D. Male part of the flower.
70. **What do we call the table used to calculate the probability of an offspring's genotype?**
- A. Punnett Square
 - B. Venn Diagram
 - C. Avogadro's Graph
 - D. Circle of Life
71. **Geotropism is a force that affects certain organisms. Which of the following is an example of a plant responding to the external stimulus of gravity?**
- A. A seedling growing towards a sunny window.
 - B. Plant roots growing down into the soil.
 - C. Flowers producing nectar to attract bees.
 - D. A potted plant wilting when it dries out.
72. **Which of these is NOT a genetic trait?**
- A. color of fur
 - B. length of tail
 - C. scar on a leg
 - D. height of a person
73. **The stalk that supports or holds up the anther is the**
- A. style
 - B. filament
 - C. ovary
 - D. pistil
74. **What happened to the green trait in Mendel's pea plants?**
- A. It provide support to Darwin's theory of evolution by disappearing.
 - B. The pea plants produced 50% less green seeds

- C. It was hidden by the dominant yellow gene
- D. The resulting plants were yellow/greenish
75. **Gregor Mendel is known as the father of** _____
- A. Modern Medicine
 - B. Father of the Green Revolution
 - C. Father of Genetics
 - D. The Pea Plant Man
76. **What is a gene?**
- A. An entire chromosome that codes for a trait
 - B. a piece of clothing
 - C. a piece of a DNA on chromosome that codes for a trait
 - D. Chemical messengers in your brain that code for a trait
77. **They enclose the egg cells inside the ovaries.**
- A. ovules
 - B. anther
 - C. seeds
 - D. stamen
78. **In a seed, the radicle grows into?**
- A. The shoot
 - B. The leaves
 - C. The stem
 - D. The roots
79. **What substance in flowers attracts bees and butterflies?**
- A. Embryo
 - B. Periosteum
 - C. Carbon dioxide
 - D. Nectar
80. **Dominant alleles are represented by a:**
- A. Male gene
 - B. lowercase letter
 - C. recessive trait
 - D. capital letter
81. **The differences that occur within the offspring of a particular species are called:**
- A. Selection.
 - B. Extension.
 - C. Variation.
 - D. Closure.
82. **Two of the same genes for a trait (sometimes called purebred). BB or bb**
- A. homozygous
 - B. heterozygous
 - C. protein
 - D. chromosome
83. **Mendel studied pea traits including all EXCEPT**
- A. flower color
 - B. pea shape
 - C. root growth
 - D. flower position on stems
84. **The enlarged base of the pistil that stores the eggs of the plant is the _____**
- A. ovary
 - B. ovule
 - C. stigma
 - D. style
85. **Steven sets a brand new plant near the window. After several weeks Steven realizes the flower is starting to tilt towards the sunlight. What would be considered the stimuli in this scenario?**
- A. Water
 - B. The dirt in the flower pot

- C. The sunlight
D. The window
86. **What force or substance causes turgor pressure?**
A. light
B. gravity
C. glucose
D. water
87. **A pea plant produces 5 seeds. What percent of its alleles come from the mother?**
A. 10%
B. 20%
C. 25%
D. 50%
88. **Two different genes for a trait (sometimes called hybrid). Bb**
A. protein
B. homozygous
C. heterozygous
D. genotype
89. **The female part of a flower is**
A. pistil
B. stamen
C. filament
D. sepal
90. **What force allows a plant to become more rigid and stand upright?**
A. turgor pressure
B. geotropism
C. photosynthesis
D. phototropism
91. **How long does it take for a Wisconsin Fast Plant to mature?**
A. 4 days
B. 28 days
C. 40 days
D. 200 days
92. **The mathematical chance that something will happen is known as ____**
A. chance
B. luck
C. probability
D. none of above
93. **What do we call the result of the genotype (for example, the color of the peas)?**
A. Visible traits
B. Physiotrait
C. Genotype 2
D. Phenotype

1.12 Plant Physiology

1. **The xylem of angiosperms is composed of these 4 elements:**
A. chloroplasts, vessels, phloem & stomata
B. Guard cells, tracheids, fibers & petioles
C. tracheids, fibers, parenchyma cells & vessels
D. none of above
2. **ROOT HAIRS DEVELOP FROM THE REGION OF ____**
A. MERISTEMATIC ACTIVITY
B. ROOT CAP
C. MATURATION
D. none of above

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3. **What is the first process in photosynthesis?**
- A. Photosystem I
 - B. Photosystem II
 - C. Calvin Cycle
 - D. Dark Reactions
4. **VASCULAR BUNDLE IN MONOCOTYLEDONS ARE CONSIDERED CLOSED BECAUSE ____**
- A. CAMBIUM IS ABSENT
 - B. XYLEM IS SURROUNDED ALL AROUND BY PHLOEM
 - C. A BUNDLE SHEATH SURROUNDS EACH BUNDLE
 - D. none of above
5. **What two characteristics determine how a tree will grow and develop?**
- A. Food and water
 - B. Exercise and sleep
 - C. genetic potential and surrounding environmental conditions
 - D. none of above
6. **What is the region of rapid cell division (growth) in plants?**
- A. Guard
 - B. Stomata
 - C. Xylem
 - D. Meristem
7. **This tissue is composed of mostly living cells: sieve cells in conifers and; sieve tube elements with companion cells in hardwoods:**
- A. Functional phloem
 - B. Functional xylem
 - C. Parenchyma cells
 - D. none of above
8. **What two materials are needed for photosynthesis?**
- A. Water and soil.
 - B. Carbon dioxide and water.
 - C. Carbon dioxide and chlorophyll.
 - D. Peanut butter and jelly.
9. **Helps fruit ripen**
- A. Auxin
 - B. Gibberellin
 - C. Cytokinins
 - D. Ethylene
10. **What is the most essential ingredient for all living things?**
- A. Air
 - B. Water
 - C. Soil
 - D. none of above
11. **Roots absorb ____ and ____ for plants?**
- A. Water and Nutrients
 - B. Soil and Sun
 - C. Warmth and Water
 - D. Soil and Water
12. **The female reproductive cells are found in the ____**
- A. seed
 - B. pollen
 - C. ovule
 - D. root
13. **There are 3 types of transpiration except**
- A. Cuticular transpiration
 - B. Stomatal transpiration
 - C. Lenticular transpiration
 - D. Chlorophyll transpiration

14. **The study of functions and the complex chemical processes that allow plants to grow is known as**
- A. plant taxonomy
 - B. plant physiology
 - C. plant nutrition
 - D. photosynthesis
15. **A tree that keeps its leaves for more than one year is called a what?**
- A. Deciduous
 - B. Wintergreen
 - C. Evergreen
 - D. none of above
16. **What do arborists use to close stomata on trees during transplant? It also can reduce evaporative cooling of leaves, reduce CO₂ uptake, and reduce photosynthesis**
- A. Antiperspirant spray
 - B. Anti-transpirant spray
 - C. An-hydrous spray
 - D. none of above
17. **which of the following is a reactant to photosynthesis?**
- A. Oxygen
 - B. Carbohydrates
 - C. Glucose
 - D. Water
18. **Which type of meristem is correctly paired with the type of growth it does?**
- A. apical - makes plant wider/thicker
 - B. lateral - makes leaves longer
 - C. axillary - makes new leaves and branches
 - D. cambium/intercalary - makes plant taller
19. **Storage, anchorage, conduction and absorption are all functions of what?**
- A. Tree Trunk
 - B. Tree Crown
 - C. Tree Roots
 - D. all of the above
20. **What effect does citrus blight have on citrus trees.**
- A. kills them
 - B. helps the tree produce more fruit
 - C. renders a tree worthless for fruit production and kills them
 - D. does stuff
21. **Chloroplasts**
- A. Essential to the process.
 - B. Small membrane bound bodies inside the cell that contain the green chlorophyll pigment.
 - C. Most important life-sustaining process.
 - D. All living cells carry on the process of respiration
22. **When cell structure changes and allows cells to assume a variety of specific functions it is called**
- A. Differentiation
 - B. Alternative pathways
 - C. Reverse osmosis
 - D. none of above
23. **WHICH OF THE FOLLOWING IS MADE UP OF DEAD CELLS?**
- A. COLLENCYMA
 - B. PHLOEM
 - C. SCLERENCHYMA
 - D. none of above

24. **Site of β -oxidation is ____ and Mitochondria.**
- A. Chloroplast
 - B. Glyoxysomes
 - C. Peroxisomes
 - D. Golgi complex
25. **What molecule absorbs sunlight for photosynthesis?**
- A. chloroplast
 - B. thylakoid
 - C. grana
 - D. chlorophyll
26. **Potatoes are commonly consumed in the modern diet. What part of the plant are they harvested from?**
- A. Leaves
 - B. Stems
 - C. Roots
 - D. Seed
27. **WHICH OF THE FOLLOWING FACILITATES OPENING OF STOMATAL APERTURE?**
- A. DECREASE IN TURGIDITY OF GUARD CELL
 - B. RADIAL ORIENTATION OF CELLULOSE CELL WALL OF GUARD CELL
 - C. CONTRACTION OF OUTER WALL OF GUARD CELL
 - D. none of above
28. **Which of the following process creates the most ATP during aerobic cellular respiration?**
- A. Glycolysis
 - B. Calvin cycle
 - C. Electron transport chain
 - D. Citric acid cycle
29. **The rate at which photosynthesis is carried out depends on**
- A. the amount of fertilizer in the water
 - B. the amount of oxygen in the atmosphere
 - C. the light intensity, temperature, and concentration of carbon dioxide
 - D. the amount of respiration carried on during the daylight hours
30. **Found in hardwoods only, these are the primary conduction elements composed of stacks of dead, hollow cells that form long tubes:**
- A. Vessels
 - B. Xylem
 - C. Cambium
 - D. none of above
31. **What are the words above and below the equal sign of the photosynthesis equation?**
- A. Light Energy, Chlorophyll
 - B. Chlorophyll, Light Energy
 - C. Glucose, Water
 - D. Water, Glucose
32. **This is the primary structural component of the cell wall**
- A. Lignin
 - B. Cellulose
 - C. Symplasm
 - D. none of above
33. **Which type of transpiration have maximum loss of water (80-90% total water loss)**
- A. Cuticular transpiration
 - B. Stomatal transpiration
 - C. Leaf transpiration
 - D. Guard cell transpiration

34. **What occurs in the Calvin Cycle of photosynthesis?**
- A. nothing happens there is no energy
 - B. glucose is synthesized from CO₂
 - C. Oxygen is being converted into sugar
 - D. energy is generated in the form of ATP
35. **What is the cotyledon's job?**
- A. feed the seed
 - B. protect the seed
 - C. reproduction
 - D. it has no function
36. **Which structure contains DNA and controls the cell's processes?**
- A. mitochondria
 - B. vacuole
 - C. nucleus
 - D. golgi
37. **What part of the seed helps to protect the embryo?**
- A. embryo
 - B. seed coat
 - C. root
 - D. leaves
38. **Where does the Calvin Cycle occur?**
- A. thylakoid
 - B. stroma
 - C. lumen
 - D. mitochondria
39. **Damaging the bark of a tree is bad for the tree for all the following reasons EXCEPT ____**
- A. bark protects the tree from pathogens
 - B. damaged cambium, which is just under the bark, could prevent future growth
 - C. doing so could damage the phloem and affect sugar transport
 - D. xylem, which is just under the bark, won't be able to transport water
40. **THE MORPHOLOGICAL NATURE OF THE EDIBLE PART OF COCONUT IS**
- A. COTYLEDONS
 - B. ENDOSPERM
 - C. PERICARP
 - D. none of above
41. **When you trim the outermost layer of a plant, it will soon die. Why is this?**
- A. Nutrients cannot move through damaged phloem
 - B. Water cannot move through damaged xylem
 - C. Leaves cannot form from damaged stems
 - D. Sunlight cannot enter damaged stems
42. ____ is a stack of thylakoids
- A. Granum
 - B. Stomata
 - C. Stroma
 - D. Chloroplast
43. **Contains the male reproductive cells of the plant**
- A. hypocotyl
 - B. radical
 - C. pollen
 - D. ovule
44. **The swollen area at the base of a branch is called the:**
- A. Branch bark ridge
 - B. Branch collar
 - C. Leaf bud scar
 - D. none of above

45. **CORTEX IS THE REGION FOUND BETWEEN**
—
A. ENDODERMIS & PITH
B. ENDODERMIS & VASCULAR BUNDLE
C. EPIDERMIS & STELE
D. none of above
46. **What structure helps to anchor the plant in the soil?**
A. leaf
B. flower
C. stem
D. root
47. **Respiration**
A. Process by which a plant gives up water vapor to the atmosphere.
B. A series of processes in which solar energy is converted to chemical energy.
C. Process by which living cells take in oxygen and give off Carbon Dioxide.
D. Study of how these organs function and the complex chemical processes that permit the plant to live, grow and reproduce.
48. **Which structure controls what enters and leaves the cell?**
A. cell wall
B. nucleus
C. plasma membrane
D. golgi
49. **In woody plants the dermal tissue is called the**
A. dermal
B. periderm
C. epidermis
D. phloem
50. **Transpiration**
A. Process by which a plant gives up water vapor to the atmosphere.
B. A series of processes in which solar energy is converted to chemical energy.
C. Process by which living cells take in oxygen and give off Carbon Dioxide.
D. Study of how these organs function and the complex chemical processes that permit the plant to live, grow and reproduce.
51. **Attracts animals that help the parent plant with seed dispersal**
A. pollen
B. leaves
C. stems
D. fruits
52. **Where do the light-dependent reactions occur?**
A. thylakoid membrane
B. stroma
C. mesophyll
D. mitochondria
53. **Trees that form wide vessels early in the season and narrower vessels later in the season are called**
A. Diffuse porous
B. Monocots
C. Ring porous
D. none of above
54. **YOU ARE GIVEN A FAIRLY ONLY PIECE OF DICOT STEM AND A DICOT ROOT. WHICH OF THE FOLLOWING ANATOMICAL STRUCTURE WILL YOU USE TO DISTINGUISH BETWEEN THE TWO?**
A. SECONDARY XYLEM / PHLOEM
B. PROTOXYLEM

- C. CORTICAL CELLS
D. none of above
55. **The first root of the embryo is known as the ____**
A. root hairs
B. radicle
C. hypocotyl
D. seed coat
56. **What is the natural environment for the root zone?**
A. Water
B. Air
C. Soil
D. none of above
57. **The part of the plant that water travels through.**
A. xylem
B. phloem
C. seed
D. stigma
58. **Process in which food substances are moved to the rest of plant by phloem is known as**
A. transpiration
B. respiration
C. photosynthesis
D. translocation
59. **What is the site of photosynthesis?**
A. Cell Wall
B. Cytoplasm
C. Chloroplast
D. none of above
60. **what are the elements that are essential for plant growth?**
A. iron zinc and boron
B. copper iron and nitrogen
C. nitrogen phosphorus and potassium
D. nitrogen potassium and calcium
61. **Which layer of cells in the leaf conducts the majority of photosynthesis?**
A. root cells
B. pallisade
C. spongy mesophyll
D. guard cells
62. **This conductive tissue is composed of tracheids, fibers and parenchyma cells in gymnosperms**
A. Xylem
B. Phloem
C. Cambium
D. none of above
63. **This is a tissue in plant stems and roots. It transports water and minerals upwards from the roots to the stem, via capillary action.**
A. Xylem
B. Phloem
C. Photosynthesis
D. Oxygen
64. **Trees that form vessels of uniform size throughout the growing season are called:**
A. Diffuse porous
B. Ring porous
C. Hydroponic
D. none of above
65. **THE VASCULAR CAMBIUM NORMALLY GIVES RISE TO ____**
A. PRIMARY PHLOEM

- B. SECONDARY XYLEM
C. PERIDERM
D. none of above
66. **What is the best words to describe sugar source and sugar sink**
A. Both are plants organ and act as storage
B. Sugar sink can be either roots, fruit or mature leaves and sugar source is shoots
C. Sugar source is where sugar enters the phloem and sugar sink is where sugar exits the phloem
D. Companion tube carry food from a sugar source to a sugar sink
67. **In the absence of oxygen, ___ follows glycolysis.**
A. Kreb cycle
B. ETC
C. Fermentation
D. Calvin cycle
68. **A slightly enlarged portion of the twig, where leaves and buds arise is called:**
A. internode
B. node
C. Leaf bud scar
D. none of above
69. **Which structure is the main site of photosynthesis?**
A. stem
B. roots
C. leaves
D. flowers
70. **Where the branch and trunk expand against each other in the crotch and the bark gets pushed up is called the:**
A. Branch collar
B. Branch bark ridge
C. petiole
D. none of above
71. **Plant nutrition is**
A. plant food added to the plant pot
B. use of basic chemical elements in the plant
C. chemical process providing plants with elements of growth
D. the measurement of acidity (sourness) and alkalinity (sweetness)
72. **What is the most common specialized stem used for food?**
A. Tuber
B. Fibrous
C. Hairy
D. Branch
73. **What tissue type defends the plant from physical damage and pathogens?**
A. Ground tissue
B. Protective tissue
C. Vascular tissue
D. Dermal tissue
74. **These are adaptations trees have made to survive in hot, dry climates:**
A. Small leaves, Sunken stomata & thick cuticle
B. large leaves and cuticle
C. thin bark, small leaves & small crown
D. none of above
75. **Plant Physiologists are responsible for studying and researching what?**
A. process of plant development
B. how respiration works
C. process of plant growth and development
D. how photosynthesis works

76. **Which structure is made of mature, living, fully functioning cells?**
- vessel elements of xylem
 - sieve tube cells of xylem
 - tracheid cells of phloem
 - companion cells of phloem
77. **Which term is the part of photosynthesis when light energy is captured and transferred to a molecule, such as ATP?**
- light- independent reactions
 - cellular respiration
 - light- dependent reactions
 - photosynthesis
78. **Steps of Photosynthesis-**
- Food is produced, Occurs in cells containing chloroplasts, Energy is stored, Carbon Dioxide is used, Oxygen is released, Water is used, it occurs in sunlight
 - Food is produced, Energy is stored, Oxygen is released, Occurs in cells containing chloroplasts, oxygen is released, water is used, Carbon Dioxide is used, It occurs in sunlight
 - Food is produced, Energy is stored, Occurs in cells containing chloroplasts, Oxygen is released, Water is used, Carbon Dioxide is used, It occurs in sunlight
 - none of above
79. **Which process directly requires energy?**
- absorption of minerals in the root
 - movement of water up the xylem
 - transpiration in the leaves
 - movement of sugar in the phloem
80. **Chlorophyll**
- Is the substance that gives plant leaves their green color.
 - Small membrane bound bodies inside the cell that contain the green chlorophyll pigment.
 - Conversion of Carbon Dioxide.
 - Most important life-sustaining process.
81. **Promotes cell division and prevents senescence (cell breakdown)**
- Gibberellin
 - Auxin
 - Cytokinins
 - Ethylene
82. **A MAJOR CHARACTERISTIC OF MONOCOT ROOT IS THE PRESENCE OF ____**
- SCATTERED VASCULAR BUNDLES
 - VASCULATURE WITHOUT CAMBIUM
 - OPEN VASCULA BUNDLE
 - none of above
83. **What plant tissue transports material between the root and the shoot of the plant**
- Ground tissue
 - Apical tissue
 - dermal tissue
 - Vascular tissue
84. **What type of cells makes leaves somewhat flexible**
- collenchyma, which are unevenly thick
 - parenchyma, which are high in mitochondria needed to change shape
 - Sclerenchyma (scleroid cells) which are gritty
 - Sclerenchyma, which have thick cell walls high in lignin
85. **Transporting sugar from the leaf down to the roots is done by the ____**
- xylem

- B. phloem
C. cotyledon
D. palisade cells
86. **These trees have only one apical meristem:**
A. Pines
B. Junipers
C. Oaks
D. Palms
87. **The process through which plants leaves, stems and roots consume oxygen and give off carbon dioxide is?**
A. absorption
B. translocation
C. respiration
D. photosynthesis
88. **What's the temperature range of photosynthesis?**
A. 60-80
B. 70-80
C. 65-85
D. 75-85
89. **How is pith and cortex ground tissue different.**
A. pith is external to the vascular tissue and cortex is internal to the vascular tissue
B. Pith is internal to the vascular tissue and cortex is external to the vascular tissue
C. Pith is a vascular tissue and cortex is a ground tissue
D. Pith is in the ground and cortex is on the surface
90. **Plants need carbon dioxide from their environment to produce glucose during which stage of photosynthesis?**
A. The light-dependent stage
B. The light-independent stage (The Calvin Cycle)
C. The electron transport chain
D. ATP formation
91. **Why does chlorophyll make plants appear green?**
A. Reflecting all colors except green
B. Absorbing all colors and reflecting back green
C. Not absorbing any colors
D. Leaves aren't green, what do you mean?!
92. **What are the products of photosynthesis?**
A. water and carbon dioxide
B. oxygen and glucose
C. oxygen and carbon dioxide
D. oxygen and water
93. **These are living cells that are located in the outer layers of the xylem. They store carbohydrates, defend against decay and provide structural function across the grain:**
A. Sieve tube cells
B. Parenchyma cells
C. Epicormic cells
D. none of above
94. **Vascular tissue not only transports material it also**
A. protects the plant
B. supports the plant structurally
C. transports minerals
D. transports energy
95. **AGE OF A TREE CAN BE ESTIMATED BY**
A. ITS HEIGHT AND GIRTH
B. BIOMASS
C. NUMBER OF ANNUAL RINGS
D. none of above

96. **Transpiration also occurs in what?**
- A. flowers
 - B. roots
 - C. stems
 - D. leaves
97. **Which of the following is NOT involved in moving water up a plant?**
- A. Capillary action made possible by the tube-shaped cells
 - B. Transpiration in the leaves, which helps maintain low pressure in the leaves
 - C. Companion cells pumping water in and out of the xylem using active transport
 - D. Casparian Strip in the roots, which helps maintain high pressure of water in the roots
98. **When an organism grows toward the sunlight it is called what?**
- A. Luminescent
 - B. Photogenic
 - C. Phototropism
 - D. none of above
99. **This is plant tissue that conducts nutrients (food) through the plant.**
- A. Xylem
 - B. Phloem
 - C. Photosynthesis
 - D. DNA
100. **How does Photosystem II create O₂?**
- A. It reduces H₂O into H⁺ and O
 - B. O₂ is actually generated in the Calvin Cycle
 - C. It Oxidizes H₂O into H⁺ and O
 - D. Oxygen atoms are assembled in Photosystem II
101. **Citrus growers and the U.S. Horticultural Research Laboratory have been studying the disease citrus blight since what year?**
- A. 1891
 - B. 1872
 - C. 1895
 - D. 1892
102. **What is significance of transpiration**
- A. Maintenance of turgidity
 - B. Helps in gaseous exchange
 - C. Cooling effect for plants
 - D. All of the above
103. **Photosynthesis will work best in which temperature range**
- A. 50-60 degrees F
 - B. 60-70 degrees F
 - C. 65-85 degrees F
 - D. 85-95 degrees F
104. **What is the most important life-sustaining process?**
- A. Photosynthesis
 - B. Transpiration
 - C. Respiration
 - D. none of above
105. **These provide a large surface area for absorbing sunlight & CO₂. They also facilitate gas exchange.**
- A. Twigs
 - B. Buds
 - C. Leaf blades
 - D. none of above
106. **The area of the leaf stalk that enables leaf drop and protects the stem from desiccation and pathogen entry.**
- A. Branch bark ridge
 - B. Branch collar

- C. Abscission zone
D. none of above
107. **Bolting is induced by ____ hormone.**
A. GA2
B. IAA
C. IPA
D. GA3
108. **What is the process is where living cells take in oxygen and give off carbon dioxide?**
A. respiration
B. photosynthesis
C. cellular respiration
D. oxygen
109. **The two main functions of roots are to absorb water and minerals and to ____ the plant.**
A. anchor
B. gather sunshine for
C. protect
D. none of above
110. **The membrane enclosed the vacuole is called ____**
A. plasmalemma
B. cell membrane
C. endoplasm
D. tonoplast
111. **What is needed to increase surface area to absorb more water?**
A. leaves
B. stems
C. root hairs
D. xylems
112. **How is collenchyma and sclerenchyma tissue similar?**
A. They both provide protection for the plant
B. They both transport material throughout the plant
C. They both provide support
D. They both provide energy for the plant
113. **Photosynthesis**
A. A series of processes in which solar energy is converted to chemical energy.
B. Process by which living cells take in oxygen and give off Carbon Dioxide.
C. Process by which a plant gives up water vapor to the atmosphere.
D. Study of how these organs function and the complex chemical processes that permit the plant to live, grow and reproduce.
114. **Which structure prepares proteins and transports them to the golgi?**
A. golgi
B. nucleus
C. chloroplast
D. endoplasmic reticulum
115. **What part of the leaf is responsible for gas exchange?**
A. palisade cells
B. spongy mesophyll
C. cotyledon
D. stomata and guard cells
116. **____ quanta of light is needed for fixation of 6 CO₂ molecules.**
A. 8
B. 12
C. 48
D. 6

117. **Which of the following is NOT external factors affecting transpiration**
- A. Temperature
 - B. Wind and air movement
 - C. Relative humidity
 - D. Rain
118. **When roots are living in a symbiotic relationship with certain fungi that help the tree get essential minerals, it is called:**
- A. Absorption
 - B. Osmosis
 - C. Mycorrhizae
 - D. none of above
119. **What is photosynthesis?**
- A. The process plants use to turn carbon dioxide and water into food.
 - B. The process plants use to chlorophyll and sunlight into air.
 - C. The process plants use to turn sunlight and chlorophyll into soil.
 - D. The process plants use to turn chocolate and milk into chocolate milk.
120. **What are the steps of Respiration?**
- A. Food is used for plant energy, Occurs in all cells, Energy is released, Oxygen is used, Carbon Dioxide is produced, Water is produced, It occurs in light and dark
 - B. Food is used for plant energy, Energy is released, Occurs in all cells, Oxygen is used, Water is produced, Carbon Dioxide is produced, It occurs in light and dark
 - C. Food is used for plant energy, Energy is released, Occurs in all cells, Water is produced, Oxygen is used, Carbon Dioxide is produced, It occurs in light and dark
 - D. none of above
121. **What is neutral on the pH scale**
- A. 5
 - B. 7
 - C. 8
 - D. 12
122. **What structure uses light to do photosynthesis?**
- A. vacuole
 - B. mitochondria
 - C. chloroplast
 - D. nucleus
123. **In what process does the plant give up water vapor to the atmosphere?**
- A. Photosynthesis
 - B. Transpiration
 - C. Respiration
 - D. none of above
124. **What is pH?**
- A. the sweetness of plants
 - B. the sourness of plants
 - C. The measure of how acid/basic the water is
 - D. The measure of gasses in the air
125. **Chlorophyll is important in plants because**
- A. creates an atmosphere where it can determine the osmotic pressure
 - B. allows the plant to make good xylem tissue
 - C. make it possible for plants to grow
 - D. it takes carbon dioxide and makes oxygen
126. **In the Krebs Cycle ____ molecules of NADH₂ are formed per molecule of acetyl CoA oxidized to CO₂ and H₂O.**
- A. 4
 - B. 8
 - C. 3
 - D. 6

127. **What part of the plant does photosynthesis occur?**
- roots
 - leaves
 - flower petals
 - pollen
128. **Removing the apical bud of a plant will** —
- stop all further growth
 - promote the production of new axillary buds, making the plant bushier
 - make it grow taller, faster
 - prevent the plant from getting thicker, making it floppy
129. **P680 is part of — while P700 is part of** —
- Calvin Cycle / Photosystems II and I
 - Photosystem II / Photosystem I
 - Photosystems II and I / Calvin Cycle
 - Photosystem I / Photosystem II
130. **Poison Ivy growing on a tree by touch.**
- Gravitropism
 - Phototropism
 - Thigmotropism
 - Hydrotropism
131. **This component provides strength and rigidity in plant cell walls, especially in wood.**
- Phloem
 - Cellulose
 - Lignin
 - none of above
132. **Which of the following is the correct equation for PHOTOSYNTHESIS?**
- light + carbon dioxide + water → glucose + oxygen
 - carbon dioxide + sugar + water → oxygen + light
 - oxygen + light + water → carbon dioxide + sugar
 - carbon dioxide + oxygen + water → Light + Sugar
133. **Which of the following is not internal factors affecting transpiration**
- Plant cuticle
 - Number of stomata
 - Temperature
 - Number of leaves

1.13 Agricultural Extension

- Regular, systematic collection and analysis of information to track the progress of programme implementation against pre-set targets is**

- Evaluation
- Objectives
- Monitoring
- Decisionmaking

1.14 AREAS OF AGRICULTURE

- The study and care of all the living organisms which live in the forest is referred to as**

- Wildlife
- Forestry
- Agronomy

- D. Aquaculture
2. **Agriscience is:**
- the application of scientific principles and new technologies to agriculture
 - the activities related to the production of plants, animals, & related processes
 - commercial firms that have stemmed from agriculture
 - none of above
3. **Which of the following areas deals with farm management and profit making on the farm?**
- Soil Science
 - Agronomy
 - Forestry
 - Agricultural Economics
4. **Agribusiness is:**
- the application of scientific principles and new technologies to agriculture
 - the activities related to the production of plants, animals, & related processes
 - commercial firms that have stemmed from agriculture
 - none of above
5. **Which of the following branches of Horticulture will a farmer who is interested in ornamental plants engage in?**
- Pomology
 - Olericulture
 - Floriculture
 - Silviculture
6. **Agriculture is:**
- the application of scientific principles and new technologies to agriculture
 - the activities related to the production of plants, animals, & related processes
 - commercial firms that have stemmed from agriculture
 - none of above
7. **The branch of agriculture that deals with the supply of information to small scale farmers on how to improve their agricultural production is**
- Agricultural Information
 - Agricultural Extension
 - Agricultural Systems
 - Agricultural mechanization
8. **The following are areas of agriculture EXCEPT**
- Veterinary Medicine
 - Horticulture
 - Pharmacology
 - Agricultural Economics

1.15 Branches of Agriculture

1. **Which of the following does not belong to the branches of agriculture?**
- AGRONOMY
 - ANIMAL HUSBANDRY
 - AGRICULTURAL ENGINEERING
 - AGRICULTURAL PRACTICES
2. **Which of these studies has to do with plant science, plant biology, or phytology?**
- Hydrology
 - Ecology
 - Botany
 - Agronomy
3. **Agriculture is the science of cultivating plants and ____**
- Corn. Only Corn

- B. Ummm ____ Rocks?
C. Livestock
D. Soil
4. **It is the scientific method of rearing honey-bees.**
A. Apiculture
B. Livestock
C. Poultry
D. Pastoralism
5. **It is the science dealing with the cultivation of crops and vegetables on a field scales either under rain fed or irrigation conditions.**
A. agricultural engineering
B. animal husbandry
C. agronomy
D. agricultural economics
6. **It is the science and art of growing and caring for plants, especially flowers, fruits, and vegetables.**
A. horticulture
B. floriculture
C. miniature
D. cultivation
7. **It is the area of engineering concerned with the design, construction and improvement of farming equipment and machinery.**
A. agricultural engineering
B. mechanical engineering
C. civil engineering
D. electrical engineering
8. **What does Entomology have to do with?**
A. Insects
B. Mice
C. Lizards
D. Boars
9. **What is horticulture?**
A. The agriculture of plants for food, comfort, and decoration.
B. The study of plants used in medicines only.
C. The study of chickens (Specifically Hens)
D. The study of insects
10. **It is a type of animal husbandry where of birds domestically or commercially raised, primarily for meat and eggs as well as for feathers.**
A. livestock
B. poultry
C. apiculture
D. pastoralism
11. **What was the key development in sedentary human civilization?**
A. Agriculture
B. The Arts (Literature, Logic, The fine arts, and foreign Language studies ____ etc.)
C. Monarchies
D. none of above
12. **It is the branch of agriculture concerned with animals that are raised for meat, fiber, milk, eggs, or other products.**
A. AGRONOMY
B. AGRICULTURAL ECONOMICS
C. AGRICULTURAL ENGINEERING
D. ANIMAL HUSBANDRY
13. **It is study of the allocation, distribution and utilization of the resources used, along with the commodities produced, by farming.**
A. agronomy
B. animal husbandry

- C. agricultural engineering
D. agricultural economics
14. **What do you call of the husbandry of grazing animals which is an ideal way of making a living and the regular movement of all or part of the society?**
A. Swine Farming
B. Poultry farming
C. Nomadic Pastoralism
D. Apiculture
15. **What is flower farming really called?**
A. Floriculture
B. Aquaculture
C. Botany
D. Ecology
16. **It is the science and art of vegetable growing, dealing with the culture of non-woody (herbaceous) plants for food.**
A. floriculture
B. olericulture
C. pomology
D. aquaculture
17. **___ is the business of agricultural production**
A. Telemarketing
B. Hydrology
C. Entomology
D. Agribusiness
18. **Define Zootechnics**
A. The study of natural environments
B. The study of zoo gift shops
C. The art of managing domestic/captive animals.
D. Then art of setting animals free:)

1.16 Agricultural Economics

1. **Sektor perikanan di Indonesia memiliki potensi sangat besar karena ___**
A. Teknologi yang dipakai nelayan sudah maju
B. Memiliki perairan dengan ombak yang besar
C. Wilayah perairan indonesia yang sangat luas
D. Memiliki keanekaragaman hayati laut yang melimpah
2. **There are many different reasons behind farm subsidies. Without farms there would be little food and life would be much more difficult. Which are true statements?**
A. both answers are correct
B. It is critical to insure that there are farms to provide food for the nation.
C. It becomes necessary to help ensure that those farmers are able to earn a living.
D. none of above
3. **Farm Policy programs main elements are designed to support:**
A. both answers are correct
B. support prices when farmers sell their crops
C. support income to farmers
D. none of above
4. **the invention of farm machinery led to the ___ revolution.**
A. Industrial
B. plantation
C. Agricultural
D. green

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5. **Price floors can result in both positive and negative outcomes.**
 - A. All answers are correct
 - B. Result will be a product surplus
 - C. Since the consumers are not willing to buy the quantity produced at the price floor, the government will end up buying the surplus to maintain the price.
 - D. Price floors create benefits to the farmers at the expense of the consumers as they must pay higher prices and consume less.
6. **forestry, lumbering, agriculture, hunting and fishing all are ___ economic activities.**
 - A. secondary
 - B. primary
 - C. tertiary
 - D. quaternary
7. **Farmers have been given subsidies since:**
 - A. 1930s
 - B. 1850
 - C. 2020
 - D. 1999
8. **Agriculture also includes farm commodities (ex:raw materials that can be sold like copper). Agriculture also includes what:**
 - A. raw materials like coffee
 - B. All are correct
 - C. food products that are sold through restaurants or grocery stores
 - D. none of above
9. **Imports are products ___**
 - A. imported from another country to the US
 - B. All are correct
 - C. Ex:Honda van imported from Japan
 - D. Ex:Coffee beans imported from Brazil
10. **While agriculture remains a ___ industry, it is a ___ industry, especially in the realm of the smaller operations.**
 - A. non profitable, declining
 - B. profitable, declining
 - C. profitable, increasing
 - D. none of above
11. **The demand and supply changes over time in ag industry have ___**
 - A. all are correct
 - B. Increased the minimum efficient scale in agriculture and reduced crop prices (now tractors instead of horse and mule).
 - C. Some producers have become more efficient; firms that are too small to take advantage of economies of scale get priced out of the market and their financial losses have resulted in a mass exodus of workers from the industry to other sectors of the economy.
 - D. Large corporate firms, collectively called agribusiness, have emerged in some areas of farming.
12. **The undiscounted measure for choosing among the alternative projects**
 - A. Payback Period
 - B. NPV
 - C. B:C Ratio
 - D. IRR
13. **nomadic herding and livestock ranching are different in the sense that**
 - A. one is nomadic and the other is sedentary
 - B. one is small scale the other is large scale
 - C. one is environment friendly the other is not
 - D. one happens only in Mediterranean

14. Perhatikan pernyataan berikut! 1) Penggunaan teknologi sudah modern 2) Alih fungsi lahan menjadi lahan non pertanian 3) Ketersediaan benih yang melimpah dan bermutu 4) Tidak dipengaruhi musim 5) Modal terbatas 6) Pasar hasil pertanian sebagian besar dikuasai oleh pedagang-pedagang besar. Dari pernyataan di atas yang merupakan hambatan pengembangan agrikultur di Indonesia adalah ____
- 1, 2, 5
 - 2, 5, 6
 - 3, 4, 6
 - 4, 5, 6
15. The Food, Conservation, and Energy Act in ____, provided cash subsidies such as direct payments to farmers based on their historical production patterns and CCPs which were payments made to fill the gap between the target price of the farm product and the actual market price of the current year. It also provided marketing loans for when the crop prices fell below a certain price; the loan could be paid for with the crop with no additional payment necessary.
- 2008
 - 1908
 - 1778
 - none of above
16. Why do some farms still profitable?
- True
 - Farm subsidies (money given to farms from government)
 - On average, only about 16 percent of the farm income is from farming activities.
 - Members of farm households increasingly hold jobs outside the farm (especially in winter when there is no farming being done)
17. Agriculture is an extremely diverse industry because it includes:
- All are correct
 - Pig farms
 - Cattle ranches
 - Vegetable plots and grain farms
18. What is subsistence farming?
- farm is based in one location
 - crops are grown to be sold in the market
 - farmers grows crops to feed his family only
 - only cattle are raised on the farm
19. The Freedom to Farm Act of ____ ended price supports and acreage allotments for many farm products.
- 1996
 - 1906
 - 1706
 - none of above
20. Perhatikan pernyataan dibawah ini . Manakah yang termasuk potensi ekonomi Maritim Indonesia dalam segi Pariwisata? a) Budidaya Lobster, b) Industri galangan kapal c) Wakatobi, Bunakend) Pembangkit listrik tenaga arus laut
- a)
 - b)
 - c)
 - d)
21. "Future value of present money" which means ____
- Compounding
 - Discounting
 - Cost
 - Returns

22. **Kekayaan laut merupakan potensi ekonomi yang mampu memberikan kontribusi bagi perekonomian nasional. Peran masyarakat untuk menjaga dan mengembangkan potensi tersebut dengan ____**
- A. Membiarkan kekayaan laut begitu saja agar lebih berkembang lagi
 - B. Memanfaatkan hasil laut secara masal dengan cara apapun
 - C. Menjaga kelestarian laut dan menikmati hasil dengan bijak
 - D. Mendukung peran asing dalam mengelola sumber daya laut
23. **in ____ farming the land is used for growing food and fodder crops and rearing the livestock.**
- A. Mixed farming
 - B. separate farming
 - C. plantation agriculture
 - D. nomadic herding
24. **There are some serious issues in the ag industry ____**
- A. One major cause of the instability is the ag industry is dependence on world markets to export to.
 - B. All are correct
 - C. It suffers frequently from short-run price
 - D. It suffers frequently from income instability, which may prevent firms from entering the market.
25. **Kegiatan ekonomi yang mencakup transportasi laut, industri galangan kapal dan perawatannya, pembangunan dan pengoperasian pelabuhan beserta industri dan jasa terkait disebut ____**
- A. Marine economy
 - B. Ekonomi kelautan
 - C. Ekonomi agrikultur
 - D. Ekonomi maritim
26. **____ type of farming produces rather small amount of produce from a large area of land.**
- A. Extensive
 - B. intensive
 - C. pastoral
 - D. subsistence
27. **A surplus in farming could be growing too much corn that is not needed. What can be done to prevent this?**
- A. All answers are correct
 - B. Restrict supply with acreage allotments (can only farm 40 acres)
 - C. Use corn to make gasohol and biodiesel and ethanol
 - D. Will create higher food prices
28. **pastoral farming is**
- A. growing crops commercially
 - B. raising cattle
 - C. nomadic farming
 - D. horticulture
29. **Farms can be ____**
- A. small
 - B. All are correct
 - C. family-based farms
 - D. large, multi-national conglomerates
30. **What factors contribute to the decline in the agriculture industry?**
- A. Supply of ag products has increased dramatically because of technological advances.
 - B. Land that was once considered unsuitable for agriculture can now be farmed due to irrigation and other advances.
 - C. Demand has increased much more slowly, especially in the United States.

- This is because demand is tied to population growth, which has not been rapid.
D. all are correct statements
31. **Parity concept** ____
A. All answers are correct
B. In international exchange, parity refers to the exchange rate between the currencies of two countries making the purchasing power of both currencies substantially equal.
C. Equality in price, rate of exchange, purchasing power, or wages
D. none of above
32. **the technique to create farmland by burning or cutting the forest is called** ____
A. intensive farming
B. lumbering
C. subsistence farming
D. Slash and burn
33. **What is "support price" for an agricultural commodity**
A. The minimum price at which Government is prepared to buy it
B. Money paid to agriculturist for cause damaging crops due drought
C. Subsidy paid by the government
D. All of the above
34. **Exports are products** ____
A. US sells to other countries
B. All are correct
C. Ex:US selling airplanes to Germany
D. Ex:US selling corn to China

1.17 Agriscience

1. **application of mechanical and other engineering principles in agriculture**
A. ag engineering
B. aquaculture
C. agribusiness
D. ornamental
2. **In what year did the Smith-Hughes Act establish funding for vocational agriculture in high school?**
A. 1917
B. 1928
C. 1935
D. 1950
3. **In what year did the FFA become a national organization?**
A. 1920s
B. 1928
C. 1935
D. 1950
4. **The most important feed grain for livestock is:**
A. rice
B. barley
C. wheat
D. corn
5. **Which crop is most valuable to Louisiana's economy?**
A. Peaches
B. Forestry
C. Rice
D. Soybean
6. **The tendency of female sheep to have twins is due to:**
A. weather conditions

- B. the sequence of the bases between the DNA strands
- C. the age of the ram
- D. the desire of the mother to have twins
7. **Environment**
- A. Modern principles and practice for animal growth and management
- B. The study of the properties and management of soil to grow plants.
- C. Pest control program based on multiple-control practices.
- D. Space and mass around us.
8. **Involves the growing and marketing of field crops and livestock. Farming and Ranching**
- A. Production Agriscience
- B. Forestry
- C. Profession
- D. Horticulture
9. **___ level below which soil is saturated with water**
- A. Water Cycle
- B. Water Table
- C. Watershed
- D. none of above
10. **Jim wants to amend a motion to go to the country fair. The three common ways he can amend the motion is by a:**
- A. adding, striking out, or substituting
- B. Combining, blending, or referring
- C. Delaying, avoiding, or deafting
- D. Withdrawing, rescinding, or conferring
11. **What tool is used to push nail heads below the surface of the wood?**
- A. Screwdriver
- B. Drill press
- C. Nail set
- D. Nail punch
12. **Businesses that sell supplies to agencies that provide services for people in agriscience.**
- A. Agriscience Supplies and Services
- B. Horticulture
- C. Plenty of Opportunities
- D. The Wheel of Fortune
13. **The biggest industry in the United States is ___**
- A. retail
- B. energy
- C. agriculture
- D. construction
14. **Which term describes turning raw product into desirable ones?**
- A. marketing
- B. distribution
- C. production
- D. processing
15. **What major plant science industry is the following career in? FLORIST**
- A. Ornamental Horticulture
- B. Fruit & Vegetable Production
- C. Agronomy
- D. General Plant Science
16. **Biochemistry**
- A. Chemistry as it applies to living matter.
- B. Science of insect life.
- C. Science of soils and field crops.
- D. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.

17. **Sustainability means?**
- A. Something will last a long time
 - B. Something will not last
 - C. Something is organic
 - D. something is harmful
18. **The presiding officer keeps the meeting in order by requiring members who want to speak to be:**
- A. ascertained.
 - B. confirmed.
 - C. registered.
 - D. recognized.
19. **A goal of most Professional Agricultural Organizations is to:**
- A. create more paperwork
 - B. keep membership down by raising the amount of dues members have to pay
 - C. maintain the old methods of farming
 - D. update its members of new methods, products and technology
20. **High Technology**
- A. The study of the properties and management of soil to grow plants.
 - B. Space and mass around us.
 - C. Use of electronics and ultramodern equipment to perform tasks and control machinery and processes.
 - D. Science of insect life.
21. **In addition to developing leadership, a major purpose of FFA career development events (CDEs) is to help students:**
- A. win proficiency awards.
 - B. increase technical agricultural skill
 - C. write better English papers.
 - D. raise their SAT scores.
22. **About 65% of the refined sugar produced in the US comes from what crop?**
- A. Sugar cane
 - B. Sugar Beets
 - C. Corn
 - D. Sorghum
23. **___ classify soil according to the most appropriate use. Requires bachelor's degree**
- A. Soil Conservationist
 - B. Soil Scientist
 - C. Forestry Consultant
 - D. none of above
24. **The percentage of total jobs in agriscience that require a college education to enter the job is**
- A. 10 percent
 - B. 20 percent
 - C. 41 percent
 - D. 60 percent
25. **What three grains are referred to as cereal grains?**
- A. barley, rye, corn
 - B. rice, wheat, corn
 - C. wheat, corn, barley
 - D. corn, wheat, rye
26. **Which is a product of genetic engineering related to weed control?**
- A. Roundup-ready soybeans
 - B. High-oleic peanuts
 - C. Bt corn
 - D. Delayed-ripening tomatoes
27. **The FFA Creed was adopted by members at the:**
- A. third National FFA Convention.
 - B. thirty-third National FFA Convention.

- C. one hundred sixty-third National FFA Convention.
D. ninety-third National FFA Convention.
28. **What is the birthing process of a horse called?**
A. Foaling
B. Farrowing
C. Wethering
D. Lambing
29. **What major plant science industry is the following career in? PLANT PHYSIOLOGIST**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
30. **Developing students' potential for premier leadership, personal growth, and career success is the FFA:**
A. Creed.
B. Mission.
C. Motto.
D. Slogan.
31. **As crop residue breaks down, it competes with a growing crop for soil ____; therefore, extra ____ may be needed to assure good crop yields.**
A. hydrogen
B. carbon dioxide
C. nitrogen
D. oxygen
32. **The selection of a product or service to be sold for profit is called the:**
A. buying function
B. distribution function
C. promoting function
D. selling function
33. **Flora and Fauna refer to**
A. Animals
B. Flowers
C. Trees
D. Plants and Animals
34. **What do you call a mature female horse?**
A. Heifery
B. Filly
C. Mare
D. Ewe
35. **One requirement of the greenhand degree is**
A. prepare a plan for a supervised agricultural experience
B. \$70 earned from an agriscience experience
C. school grades of C or above
D. unselfish attitude in FFA activities
36. **What major plant science industry is the following career in? PLANT PROPAGATOR**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
37. **As part of Deanna's foundational SAE, she now has a better understanding of personal finance and planning. What activity did she most likely perform to gain this understanding?**
A. completing a career interest survey
B. interviewing a local wildlife officer
C. creating a personal budget
D. creating a resume

38. **Which tool would best be used for Ripping a 2x4 into 1x2s?**
- A. Table Saw
 - B. Miter Saw
 - C. Drill
 - D. Circular Saw
39. **When should you tell Mrs. Taylor an injury has occurred?**
- A. When blood is gushing from someone
 - B. Only if that person wants her to know
 - C. Immediately after it happens
 - D. Never, just get a band aid out of the first aid box.
40. **how much raw sugar been produced**
- A. 1.8m
 - B. 2m
 - C. 3.2m
 - D. 1.3m
41. **Crop Science**
- A. All aspects of water conservation and management.
 - B. Chemistry as it applies to living matter.
 - C. Animal growth, care, and management.
 - D. Use of modern principles in growing and managing crops.
42. **What invention led to a rise in corn prices?**
- A. ethanol
 - B. combine
 - C. pesticides
 - D. fertilizers
43. **Raising tilapia, trout, and catfish is called:**
- A. aquaculture
 - B. agronomy
 - C. arboriculture
 - D. equine science
44. **When an animal is harvested for meat and the rest of it is turned into other products, those products are called what?**
- A. Animal By-Products
 - B. Animal Products
 - C. Animal Main Products
 - D. Animal Leftovers
45. **Why is water known as the universal solvent**
- A. can be used as a substitute for gasoline
 - B. changes in form from ice to snow to sleet to rain
 - C. dissolves or otherwise changes most other materials
 - D. has replaced paint thinner & mineral spirits
46. **Of the cereal grains grown worldwide, the second-most-important crop is:**
- A. wheat
 - B. barley
 - C. corn
 - D. rice
47. **The floriculture Career Development Event (CDE) primarily allows students to:**
- A. earn money while working.
 - B. develop technical knowledge.
 - C. develop confidence in giving a speech.
 - D. identify trees used for pulpwood.
48. **Which is an application of biotechnology in agriscience?**
- A. Genetic engineering
 - B. Planting seed
 - C. Stem cuttings
 - D. Selective breeding

49. **If a soil pH level is 6.0 and needs to be raised to 7.0, what amendment is BEST incorporated into the soil?**
- A. Sulfur
 - B. Sodium
 - C. Lime
 - D. Magnesium
50. **An FFA activity not generally organized as a career development event is**
- A. dairy foods
 - B. forestry
 - C. land judging
 - D. agricultural sales
51. **The largest part of a speech is the**
- A. body
 - B. conclusion
 - C. introduction
 - D. summary
52. **___ one who scientifically manages forests (specializing in the care of trees)**
- A. Logger
 - B. Soil Scientist
 - C. Silviculturist
 - D. none of above
53. **carrying out an investigation**
- A. communicating
 - B. experimenting
 - C. inferring
 - D. classifying
54. **Howard records earning a tractor safety certification in his SAE online records. What part of his foundational SAE was he completing?**
- A. Financial Planning and Management
 - B. Agricultural Literacy
 - C. Safety Exploration
 - D. Workplace Safety
55. **Which is not something FFA teaches us?**
- A. Choices in Ag Careers
 - B. Leadership Development
 - C. Promote yourself above others
 - D. Promote Good Citizenship
56. **In agriscience as well as other sciences, the method used to solve a problem is called the:**
- A. educated-guess method.
 - B. most-popular-decision technique.
 - C. process of elimination.
 - D. scientific method.
57. **___ assists landowners in implementing best land use practices**
- A. Soil Scientists
 - B. Soil Conservationist
 - C. Soil Survey
 - D. none of above
58. **In order for a new biotechnology product to be approved, the product must be:**
- A. worth at least \$1 million.
 - B. tested to make sure that it is safe.
 - C. able to kill insects.
 - D. affordable to the average consumer.
59. **The number of floral industry workers in the united states is about**
- A. 110, 000
 - B. 220, 000
 - C. 500, 000
 - D. 1, 000, 000

60. **Which FFA career development event (CDE) requires participants to grade and evaluate egg and chicken products?**
- A. Parliamentary procedure
 - B. Dairy judging
 - C. Poultry judging
 - D. Public speaking
61. **If Julie used a syringe on her gelding, she is most likely:**
- A. giving an oral examination.
 - B. trimming the gelding's mane and tail.
 - C. giving an injection or drawing body fluids.
 - D. none of above
62. **Who studies the effects of the environment on animal life?**
- A. Soil Technician
 - B. Wildlife Technician
 - C. Wildlife Manager
 - D. Ecologist
63. **What is a career option for agricultural mechanics/engineering?**
- A. Equipment Manager
 - B. Land Surveyor
 - C. Agricultural Mechanics
 - D. Garden tractor repairman
64. **growing and managing living things in water**
- A. aquaculture
 - B. agribusiness
 - C. ornamental
 - D. turf
65. **The transmission of characteristics from an organism to its offspring through genes in reproductive cells is known as:**
- A. progeny.
 - B. traits.
 - C. heredity.
 - D. genetics.
66. **A student may join 4-H or Scout groups to learn agriscience concepts as early as**
- A. college
 - B. high school
 - C. middle school
 - D. none of the above
67. **Hay is raked to:**
- A. Allow even drying
 - B. Allow the hay to ferment
 - C. Recude the maturity
 - D. Remove leaves and weeds.
68. **Which ensures a meeting keeps moving through steps from start to finish?**
- A. Order of business
 - B. Recess
 - C. Adjournment
 - D. Opening ceremony
69. **Select the following crops which should be packaged in a manner to protect from cosmetic defects.**
- A. Grain & Cereal Crops
 - B. Fiber Crops
 - C. Fruits & Vegetables
 - D. Forage Crops
70. **The science of growing things in water such as shellfish:**
- A. agronomy
 - B. animal science
 - C. aquaculture
 - D. renewable resources

71. **John is working with his Boy Scout Troop to improve the appearance, convenience, and safety of the local park. In which immersion SAE project is he most likely involved?**
- A. Analytical
 - B. Experimental
 - C. Internship
 - D. Service learning
72. **Which career supplies flowering plants to a florist?**
- A. Floral Designer
 - B. Forest ranger
 - C. Greenhouse manager
 - D. Landscape architect
73. **The cost to produce sugarcane ____ between 1988 and 2008.**
- A. did not change
 - B. increased
 - C. decreased
 - D. none of the above
74. **Definition of gestation**
- A. the act of food being digested in the stomach
 - B. the process of growing offspring in the womb
 - C. eating special feed
 - D. the process of growing into an adult animal
75. **Who often works in government agencies, advising land owners and managing game populations on public lands?**
- A. Urban Forester
 - B. Wildlife Biologist
 - C. Wildlife Manager
 - D. Game Warden
76. **What does a reaper do?**
- A. takes product from the field
 - B. separates grain from chaff
 - C. cuts and bundles grasses
 - D. takes product, cuts, and separates
77. **Lucas moved to amend the motion to have refreshments after all meetings by substituting "once per quarter" in the place of "after all meetings." The amendment must pass by a:**
- A. majority vote.
 - B. roll call vote.
 - C. secret ballot vote.
 - D. two-thirds majority vote.
78. **How much of our food dollar goes to farmers and Ranchers?**
- A. 81 cents
 - B. 19 cents
 - C. 8 cents
 - D. 3 cents
79. **Americans have huge appetites for wood Products. It is the Industry that grows, manages, and harvests trees for lumber, poles, panels, pulpwood, and many other commodities.**
- A. Horticulture
 - B. Supplies and Services
 - C. Renewable Natural Resources
 - D. Forestry
80. **Which leadership career development event (CDE) is a basic statement of beliefs about FFA and agriculture?**
- A. FFA Creed
 - B. Prepared Public Speaking
 - C. Extemporaneous Public Speaking
 - D. Parliamentary Procedure

81. **Which process developed in the 1980s involves moving genetic information between genes?**
- A. genetic engineering
 - B. phytoremediation
 - C. biostimulation
 - D. bioremediation
82. **What helps children with Vitamin A deficiency?**
- A. BT corn
 - B. golden rice
 - C. yellow sunshine
 - D. legumes
83. **The appropriate tool for turning various size nuts and bolts is a/an:**
- A. adjustable wrench.
 - B. allen wrench
 - C. auger bit.
 - D. extension.
84. **The application of scientific principles and new technologies to agriculture:**
- A. agriculture
 - B. horticulture
 - C. agriscience
 - D. agribusiness
85. **Agronomy**
- A. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.
 - B. Plants used for their appearance.
 - C. Science of soils and field crops.
 - D. Animal growth, care, and management.
86. **Which term describes the raising of cattle and the growing of crops?**
- A. marketing
 - B. distribution
 - C. production
 - D. processing
87. **A main motion is made to have refreshments after all meetings. It must pass by a:**
- A. Majority Vote
 - B. Roll Call Vote
 - C. Secret Ballot Vote
 - D. Two- thirds majority vote
88. **water, 7.0**
- A. acid
 - B. base
 - C. neutral
 - D. none of above
89. **What would happen to a base if you added an acid?**
- A. It would be toxic
 - B. It would lower the pH
 - C. It would raise the pH
 - D. nothing
90. **What is a mature female pig?**
- A. Cow
 - B. Sow
 - C. Mare
 - D. none of above
91. **Tools may be classified according to:**
- A. use
 - B. color
 - C. construction.
 - D. origin.

92. **Kim is working part-time at the Green Thumb Garden Center. In which type of immersion SAE is she involved?**
- A. Analytical
 - B. Entrepreneurship
 - C. Placement
 - D. Protective
93. **A leadership organization of the cooperative extension system is**
- A. Boy Scouts
 - B. FFA
 - C. Grils Scouts
 - D. 4-H
94. **Which term refers to the study of the properties and management of soil to grow plants?**
- A. Crop Science
 - B. Plant Science
 - C. Agriculture Engineering
 - D. Soil Science
95. **The best tool to use when pruning small limbs to shape shrubbery is the:**
- A. floral scissors
 - B. pole pruner
 - C. pruning saw
 - D. pruning shears
96. **Which is a ruminant animal?**
- A. Sheep
 - B. Horse
 - C. Chicken
 - D. none of above
97. **One of the last items in an order of business is**
- A. new business
 - B. officer reports
 - C. reading of the minutes
 - D. treasurer's report
98. **The acronym SAE stands for:**
- A. Supervised Agricultural Education
 - B. Supervised Agricultural Experience
 - C. Super Advanced Education
 - D. None of the Above
99. **An example of a plant science career that belongs in any of the plant science areas is:**
- A. Forage manager
 - B. Entomologist
 - C. Produce manager
 - D. Florist
100. **Tissue culture may be used for:**
- A. producing genetically identical plants.
 - B. disinfecting greenhouse structures.
 - C. sexual reproduction in floral crops.
 - D. sterilization of soil products.
101. **What is the major use for the Broad-Breasted White?**
- A. Bantam show hens
 - B. Commercial turkey production
 - C. Home egg production
 - D. none of above
102. **The production of forages in the US equals ____ percent of the land used for crops.**
- A. 25
 - B. 35
 - C. 50
 - D. 65

103. **Which organization is most likely agriculturally related?**
- A. Boy Scouts
 - B. The Grange
 - C. Hot Rod Association
 - D. Red Hat Society
104. **when was the plow made**
- A. 1830
 - B. 1840
 - C. 1850
 - D. 1860
105. **What percentage of people in the United States are farmers?**
- A. nearly 5
 - B. less than 2
 - C. slightly more than 10
 - D. about 12
106. **Which might be a potential benefit of cloning animals for production purposes?**
- A. to produce identical genotypes
 - B. to produce uniform products such as chicken drumsticks
 - C. for saving a species
 - D. for research purposes
107. **Which of the following is not an objective of a vocational agriculture program?**
- A. Develop career skills in agriculture.
 - B. Provide opportunity to participate in leadership activities.
 - C. Develop positive attitudes and ability to work with others
 - D. Provide an opportunity for students to have an hour off each day.
108. **The United States both exports and imports certain agricultural products. Which statement most correctly describes the current balance of trade of agricultural products?**
- A. The U.S. has an even balance of trade, it exports and imports are equal.
 - B. The U.S. has a positive balance of trade, it exports more than it imports
 - C. The U.S. has a negative balance of trade, it imports more than it exports
 - D. The U.S. has a negative balance of trade, it exports more than it imports
109. **What does environment refer to?**
- A. The housing you live in
 - B. The food you eat
 - C. The water you drink
 - D. Your surroundings in which you live
110. **Which region of the united states does Kentucky fall into for dairy production?**
- A. Midwest
 - B. Southwest
 - C. Northwest
 - D. East
111. **Neutral**
- A. 0
 - B. 7
 - C. 14
 - D. none of above
112. **___ industry that grows, manages, and harvests trees for lumber, posts, panels, paper and many other commodities**
- A. Forestry
 - B. Wildlife
 - C. Soil Resources
 - D. none of above

113. **___ water that is held too tightly for plant roots to absorb**
- A. Hygroscopic
 - B. Free
 - C. Capillary
 - D. none of above
114. **Tamara wants to conduct an SAE that is appropriate for students who want to use the scientific method. Which SAE is BEST for her to use?**
- A. Analytical
 - B. Experimental
 - C. Improvement
 - D. Placement
115. **Forages that are cut and allowed to dry to 40-55% moisture before storing is called**
- A. Silage
 - B. Haylage
 - C. Hay
 - D. Cubes
116. **Aquaculture**
- A. Use of modern principles in growing and managing crops.
 - B. Crop Science
 - C. Agricultural Engineering
 - D. Raising aquatic animals under controlled conditions. Also, the management of the aquatic environment for production of plants and animals.
117. **When did Virginia become the first state to have Futures Farmers clubs for boys?**
- A. 1920s
 - B. 1928
 - C. 1935
 - D. 1950
118. **DNA is in the shape of a:**
- A. Single helix
 - B. Single circle
 - C. Double circle
 - D. Double helix
119. **The number of workers in agriscience in the United States is approximately**
- A. 21 million
 - B. 100 million
 - C. 100,000
 - D. 400,000
120. **What type of fertilizer is animal manure?**
- A. Complete
 - B. Organic
 - C. Lime
 - D. inorganic
121. **Which of the following is not an advantage gained from agriscience?**
- A. increased efficiency
 - B. safer food supply
 - C. decreased food costs
 - D. more complex processes
122. **Who is hired by private landowners and companies to estimate tree volume on a tract of land?**
- A. Forester
 - B. Timber Cruiser
 - C. Logging Foreman
 - D. Skidder Operator
123. **Girls were allowed in the FFA in:**
- A. 1929.
 - B. 1943
 - C. 1951.
 - D. 1969.

124. **Which city hosted the National Convention in 2013?**
- A. Indianapolis, IN
 - B. Alexandria, VA
 - C. Kansas City, MO
 - D. Louisville, Ky
125. **What machine is used to harvest small grains?**
- A. reaper
 - B. plow
 - C. thresher
 - D. combine
126. **The primary function of the leaf is to:**
- A. support other plant structures
 - B. produce flowers
 - C. produce fruit
 - D. manufacture food for the plant
127. **what year was the smith-huges act passed**
- A. 1910
 - B. 1920,
 - C. 1947
 - D. 165
128. **Whose responsibility is it to control the harvesting of wildlife?**
- A. Forest ranger
 - B. Game warden
 - C. Animal behaviorist
 - D. none of above
129. **Who moves felled trees form the cutting site to the loading area**
- A. Forester
 - B. Timber Cruiser
 - C. Logging Foreman
 - D. Skidder Operator
130. **Development of a plan to identify ways to make potential customers aware of a product or service is called the:**
- A. buying function
 - B. distribution function
 - C. promoting function
 - D. selling function
131. **What major plant science industry is the following career in?FEDERAL GRAIN INSPECTOR**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
132. **analyzing results to form conclusions**
- A. inferring
 - B. predicting
 - C. experimenting
 - D. classifying
133. **The male part of the flower is called:**
- A. Pistil
 - B. Stigma
 - C. Style
 - D. Stamen
134. **Most of the corn grown in the United States is:**
- A. flint corn
 - B. sweet corn
 - C. pod corn
 - D. dent corn
135. **___ is an essential nutrient for all plant and animal life**
- A. Soil resources
 - B. Wildlife
 - C. Water resources
 - D. none of above

136. **If the soil pH is 6.0 and needs to be raised to 7.0, what amendment is best incorporated into the soil?**
- A. sulfur
 - B. sodium
 - C. lime
 - D. magnesium
137. **The FFA Creed was written and adopted in 1928 to:**
- A. give members a theme song.
 - B. help members understand the importance of the organization.
 - C. provide a jingle for advertisement.
 - D. raise money for the support of contests held at the national level.
138. **The science of working land and activities concerned with growing plants and animals:**
- A. agriculture
 - B. horticulture
 - C. agriscience
 - D. agribusiness
139. **Hope makes a motion to have a dance. However, before discussion from the floor can occur the motion, it must be:**
- A. Amended
 - B. Seconded
 - C. Tabled
 - D. Voted on
140. **What is a mature male horse called?**
- A. Steed
 - B. Stallion
 - C. Boar
 - D. Buck
141. **___ is the large area in which water is absorbed from rain or melting snow and from which water drains**
- A. Water Table
 - B. Watershed
 - C. Water Cycle
 - D. none of above
142. **The consumer demands hogs today that are:**
- A. Able to grow without being fed grain.
 - B. Fat type hogs that produce lard for cooking.
 - C. Good for soap production.
 - D. Lean type hogs for meat production.
143. **What industry grows trees and turns them into products?**
- A. Forestry
 - B. Horticulture
 - C. Agronomy
 - D. Aquaculture
144. **___ it dissolves or otherwise changes most other materials**
- A. Potable water
 - B. Universal solvent
 - C. Water cycle
 - D. none of above
145. **What what is an immature female of the cattle breed called?**
- A. Hen
 - B. Filly
 - C. Heifer
 - D. Gilt
146. **sharing findings and results**
- A. classifying
 - B. communicating
 - C. measuring
 - D. predicting

147. **What should always be worn in the shop when working?**
- A. Safety Belt
 - B. Safety Glasses
 - C. Safety Vest
 - D. Safety Toe Shoes
148. **Saturation often occurs after a short period of heavy rain, why is that important**
- A. irrigation is required to empty ponds
 - B. plants grow faster than they are suppose to
 - C. ponds dry up and fish are killed
 - D. soil spaces are filled with water
149. **plants grown for appearance and beauty**
- A. ornamental
 - B. turf
 - C. entomology
 - D. agronomy
150. **Jasmine wants to create a tool to help shell pecans at her home. Her project will be considered as what type of Research SAE?**
- A. Analytical
 - B. Experimental
 - C. Invention
 - D. Placement
151. **Potato, 6.0**
- A. acid
 - B. base
 - C. neutral
 - D. none of above
152. **what year was genetic engineering was developed**
- A. 1920
 - B. 1982
 - C. 1990
 - D. 1965
153. **Hawan is part owner in greenhouse that grows tomatoes for the local market. What type of SAE is she involved in?**
- A. Protective
 - B. Placement
 - C. Exploratory
 - D. Entrepreneurship
154. **Genetic engineering has been used to develop bacteria strains to convert solid waste from humans and livestock into:**
- A. paper and tissue
 - B. salt and pepper
 - C. sugar and fuel
 - D. wood and fiber
155. **Definition of Calving**
- A. A pig having babies
 - B. A horse having a baby
 - C. A cow having a baby
 - D. A sheep having babies
156. **Grasses grown for their edible seeds are — crops.**
- A. Cereal Grain
 - B. Legumes
 - C. Oil
 - D. Sugar
157. **In what year was the NFA formed (New Farmers of America) for black students?**
- A. 1928
 - B. 1935
 - C. 1950
 - D. 1965

158. ____ **drinkable-free from harmful chemicals and organisms**
- A. Universal solvent
 - B. Potable water
 - C. Water Cycle
 - D. none of above
159. **Which is not a typical farm animal?**
- A. Goat
 - B. Chicken
 - C. Rabbit
 - D. Pig
160. **Biotechnology**
- A. Use of cells or components of cells to produce products or processes.
 - B. The turfgrass plant and soil immediately below it; also, grass used for decorative or soil-holding purposes.
 - C. Science of soils and field crops.
 - D. Teaching and program management in agriculture.
161. **What major plant science industry is the following career in? ENTOMOLOGIST**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
162. **Clint's SAE involves working in a production operation for an hourly wage. In which activity is he most likely involved?**
- A. visiting a supply store
 - B. landscaping his home
 - C. raising beef cattle
 - D. learning to weld
163. **What education level is required to be a vet?**
- A. Associates Degree (2 year)
 - B. Bachelors Degree (4 year)
 - C. Bachelors Degree plus advanced degree & additional training
 - D. High School Diploma
164. **Animal Sciences**
- A. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.
 - B. Animal growth, care, and management.
 - C. Science of insect life.
 - D. Chemistry as it applies to living matter.
165. **What is the primary function of the stem?**
- A. To produce the flower
 - B. To produce the fruit
 - C. To anchor the plant
 - D. To support other plant structures
166. **Clint works for an hourly wage in a SAE enterprise involved in production. What activity is he MOST likely involved in?**
- A. Landscaping his home
 - B. Learning to weld
 - C. Raising beef cattle
 - D. Visiting a supply store
167. **What is a mature female of the cattle breed called?**
- A. Cow
 - B. Mare
 - C. Heifer
 - D. Jill
168. **Which breed of dairy cattle is the most popular, black & white, and has high milk production?**
- A. Guernsey
 - B. Jersey

- C. Brown Swiss
D. Holstein
169. **Lime is used to RAISE soil pH so that the soil becomes more:**
A. Acidic
B. Alkaline
C. Eroded
D. Porous
170. **What is the 4th level of FFA?**
A. Federation
B. Region
C. State
D. National
171. **Permeability is the rate of movement of what through the soil?**
A. air and fertilizer
B. water and air
C. water and fertilizer
D. water and microorganisms
172. **Which of the following grading systems considers class, percentage of damaged kernels, percentage of foreign materials and percentage of other classes?**
A. Grain and Cereal Crops
B. Fiber Crops
C. Fruits & Vegetables
D. Forage Crops
173. **What is the purpose of a pictorial sketch?**
A. To improve the viewing of a drawing and to eliminate regular sketches.
B. To improve the viewing direction that shows the object and its details to the best advantage.
C. To improve the viewing direction that only shows two sides.
D. none of above
174. **Which statement is true?**
A. Both the number of dairy farms and number of cows in the United States has increased.
B. The number of dairy farms in the United States has increased while the size of dairy farms has decreased.
C. The number of dairy farms has decreased while the size of the dairy farm has increased.
D. Both the number of cows and the size of farms have decreased in the United States.
175. **What item is the most difficult to trace back to its source?**
A. Tomatoe
B. Eggs
C. Stone
D. Meat
176. **Animal Science Technology**
A. Food that has been grown without the use of certain chemical pesticides.
B. Modern principles and practice for animal growth and management
C. Science dealing with the characteristics of elements or simple substances.
D. Plants used for their appearance.
177. **What is a baby horse?**
A. Calf
B. Piglet
C. Foal
D. Filly
178. **What is a baby of the cattle breed called?**
A. Kit
B. Kid
C. Colt
D. Calf

179. **The secretary is the officer most responsible for:**
- A. keeping financial records for the group
 - B. keeping records of the meetings
 - C. making certain the public is informed about the club's activities
 - D. presiding over the meetings
180. **commercial firms developed in support of agriculture**
- A. agribusiness
 - B. ornamental
 - C. turf
 - D. entomology
181. **Which tool would best be used for inserting a screw into wood?**
- A. Table Saw
 - B. Miter Saw
 - C. Drill
 - D. Circular Saw
182. **___ animals that are adapted to live in a natural environment without the help of humans**
- A. Wildlife
 - B. Water Resources
 - C. Forestry
 - D. none of above
183. **When was FFA organized?**
- A. 2000
 - B. 1928
 - C. 1944
 - D. 1984
184. **What can you see with a pictorial drawing?**
- A. Two views, top, and side are in view .
 - B. Two views, front, and top are in view .
 - C. All three views, front, side (end), and top are in view .
 - D. No views are present.
185. **The purpose of the seed coat is to:**
- A. Feed the seed
 - B. Protect the seed
 - C. Filter the light
 - D. Store food
186. **Parts of the industry that haul, grade, process, package, and market commodities from production sources.**
- A. Horticulture
 - B. Forestry
 - C. Agriscience Processing, Products, and Distribution
 - D. Careers That Satisfy
187. **Who works for the agency North Carolina Wildlife Commission responsible for controlling the harvest of wildlife?**
- A. Urban Forester
 - B. Wildlife Biologist
 - C. Wildlife Manager
 - D. Game Warden
188. **In the United States we spend ___ of each dollar we earn on food.**
- A. 50%
 - B. 10%
 - C. 20%
 - D. 6%
189. **The science of soils and field crops:**
- A. agronomy
 - B. animal science
 - C. aquaculture
 - D. renewable resources

190. **The presiding officer is regarded as the traffic controller in a business meeting, and calls on members who want to speak as they ask to be:**
- A. Ascertained
 - B. Confirmed
 - C. Registered
 - D. Recognized
191. **Soil Science**
- A. Space and mass around us.
 - B. Science of insect life.
 - C. Management of agricultural resources, including farms and agribusinesses.
 - D. The study of the properties and management of soil to grow plants.
192. **Which career is responsible for shoeing horses feet?**
- A. Farrier
 - B. Nutritionist
 - C. Farm hand
 - D. Horse Vet
193. **Which has the most impact in the availability of nutrients in a soil or plant growing media?**
- A. type of plants grown
 - B. improper soil or media ph
 - C. size of container
 - D. amount of air in the media
194. **Who scientifically manages forests (specializing in the care of trees)**
- A. Soil Conservationist
 - B. Soil Scientist
 - C. Silviculturist
 - D. Forestry Consultant
195. **on the job training is?**
- A. high school agriscience programs
 - B. anything and everything that is observed, done, or lived
 - C. experience obtained while working in an actual job setting
 - D. none of above
196. **What does simulate means?**
- A. to look or at like
 - B. The method used for students to obtain real- world experience .
 - C. Conducting the activity in the daily routine
 - D. none of above
197. **Which is the most likely result of genetic manipulation in agriculture?**
- A. Increased use of chemical pesticides
 - B. Less use of chemical pesticides
 - C. Lower production of crops and animals
 - D. One cloned species that controls all others
198. **The design operation, maintenance, service, selling, and use of power units, machinery, equipment structures, and utilities in agriscience is:**
- A. Irrigation engineer
 - B. Land surveyor
 - C. Agriscience mechanics
 - D. Equipment manager
199. **Definition of a lamb**
- A. A baby goat
 - B. A baby horse
 - C. A baby pig
 - D. A baby sheep

200. **Which of the following is not a benefit of crop rotation?**
- A. Reducing Soil Nitrogen
 - B. Mitigating Weeds
 - C. Reducing soil erosion
 - D. Reducing Risk of water contamination
201. **Aaron wants to make a motion to have a cookout. What is the MOST acceptable way for him to state the motion? for him to state the motion?**
- A. I believe we should have a cookout
 - B. I make a motion that we have a cookout
 - C. I move we have a cookout
 - D. I think that we should have a cookout
202. **Jackie moves to amend the motion to have the banquet at the school cafeteria. What is she MOST likely trying to do to the motion?**
- A. Change it
 - B. Kill it
 - C. Preserve it
 - D. Restore it
203. **A procedure of fertilizer application used on row crops where the fertilizer is placed in bands about 8 inches from the row is known as:**
- A. Side-dressing
 - B. Top-dressing
 - C. Broadcasting
 - D. Foliar application
204. **Gradie has records for service learning, entrepreneurship, and placement SAE activities. How can he keep up with what he has done?**
- A. Keeping a shoe box with scraps of paper as a record
 - B. maintaining an up-to-date record book or computer file
 - C. throwing receipts in the glove compartment of his truck
 - D. asking the teacher to keep the records in a class roll book
205. **Holsteins are black and white cattle that are best known as:**
- A. a small breed of beef cattle
 - B. an exotic breed of heat tolerant cattle
 - C. the major dairy breed of cattle in America
 - D. the most used show cattle in America
206. **Which product is most commonly imported into the United States?**
- A. Bananas
 - B. Soybeans
 - C. Rice
 - D. Beef
207. **What officer is stationed "by the plow"?**
- A. President
 - B. Treasurer
 - C. Sentinel
 - D. Vice president
208. **Water Resources**
- A. Chemistry as it applies to living matter.
 - B. Animal growth, care, and management.
 - C. All aspects of water conservation and management.
 - D. Management of agricultural resources, including farms and agribusinesses.
209. **Poultry rations must be high in food value since chickens have no true stomach and:**
- A. they do not like to eat.

- B. they can only store small amounts of food in their digestive system.
- C. they can digest large amounts of roughage.
- D. none of above
210. **An occupation requiring specialized education, especially in law, medicine, teaching, or the ministry.**
- A. Agriscience Mechanics
- B. Forestry
- C. Computers in Agriscience
- D. Agriscience Professions
211. **What is the definition of accident?**
- A. Tile falling from the ceiling.
- B. Something done not on purpose
- C. Keeping people safe
- D. Dangerous situation
212. **Who is responsible for overseeing and managing logging operations?**
- A. Forester
- B. Timber Cruiser
- C. Logging Foreman
- D. Skidder Operator
213. **Which is a monogastric animal?**
- A. pig
- B. cow
- C. sheep
- D. none of above
214. **What does a combine do?**
- A. takes product from the field
- B. separates grain from chaff
- C. cuts and bundles grasses
- D. takes product, cuts it, and separates grain from chaff
215. **What is the MAJOR use for the Broad Breasted White?**
- A. Bantam show hens
- B. Commercial turkey production
- C. Home egg production
- D. Meat production
216. **What term describes the application of scientific principles and new technologies to agriculture?**
- A. agriculture
- B. agriscience
- C. agribusiness
- D. agritechnology
217. **Courses in vocational agriculture were established in 1917 by the**
- A. Smith-Hughes Act.
- B. Smith-Jones Act.
- C. Mary Smith Act.
- D. John Smith Act.
218. **The products and services that are provided in most of the areas in the agriscience wheel of fortune seem to flow to or originate from**
- A. agriculture processing, products, and distribution
- B. agriscience professions
- C. horticulture
- D. production agriculture
219. **What bacteria were genetically engineered to produce insulin?**
- A. E. coli
- B. Salmonella
- C. Yeast
- D. Listeria

220. **Of the cereal grains grown worldwide, the most important is:**
- A. wheat
 - B. barley
 - C. corn
 - D. rice
221. **Which statement best describes why you should follow all safety rules when working in the shop?**
- A. To keep yourself and others as safe as possible while working with tools and equipment in the shop.
 - B. To take all of the fun out of working in the shop.
 - C. To give Mrs. Taylor a reason to grade you while working in the shop.
 - D. To create an unsafe working environment so that everyone gets to work on whatever they want.
222. **Today, each American farmer produces enough food to feed ____ people.**
- A. 25
 - B. 75
 - C. 125
 - D. 155
223. **Agricultural Education**
- A. Modern principles and practice for animal growth and management
 - B. Basic science of the plant and the animal kingdom.
 - C. Science of insect life.
 - D. Teaching and program management in agriculture.
224. **Resources provided by nature that can replace themselves:**
- A. agronomy
 - B. animal science
 - C. aquaculture
 - D. renewable resources
225. **What does a thresher do?**
- A. takes product from the field
 - B. separates grain from chaff
 - C. cuts and bundles grasses
 - D. takes product, cuts, and separates
226. **the grass used for decorative and soil holding purposes**
- A. turf
 - B. entomology
 - C. horticulture
 - D. agronomy
227. **science of fruits, vegetables, and ornamental crops**
- A. horticulture
 - B. agronomy
 - C. animal science
 - D. ag economics
228. **Tobacco falls into the the category of crops called ____**
- A. Fiber
 - B. Biennial
 - C. Thermo
 - D. Stimulant
229. **Who classifies soil according to the most appropriate use? Requires bachelor's degree (4 yr).**
- A. Soil Conservationist
 - B. Soil Scientist
 - C. Silviculturist
 - D. Forestry Consultant

230. **Soybeans are grown for:**
- A. Oil
 - B. Hay
 - C. rain
 - D. All answers are correct.
231. **If Jenny wants to have an entrepreneurship project, she needs to know that it:**
- A. is the same as a service learning project
 - B. may also be recorded as an analytical project
 - C. must be done without pay or profit of any kind
 - D. involves ownership or partial ownership with financial risk
232. **What item of business should occur immediately after the reading of the minutes, and before the group begins unfinished business?**
- A. Degree Ceremonies
 - B. Guest speakers
 - C. Treasurer's Report as well as other officer reports
 - D. Adjournment
233. **American breeds developed by crossing the Braham from India with English breeds are bred to:**
- A. Improve meat quality.
 - B. Increase heat tolerance.
 - C. Increase milk production.
 - D. Reduce the size of calves.
234. **The first step in the scientific method of problem-solving is to:**
- A. collect data.
 - B. prepare a written report.
 - C. identify the problem.
 - D. draw conclusions.
235. **The Angus is best known for its:**
- A. black color and high quality meat
 - B. hump and heat tolerance
 - C. large calves and fast growth rate
 - D. large size and leaner meat
236. **Pollen is produced in the stamen by the:**
- A. Pistil
 - B. Stigma
 - C. Filament
 - D. Anther
237. **A person who estimates timber volume is called:**
- A. Skidder
 - B. Timber cruiser
 - C. logging foreman
 - D. none of above
238. **Integrated Pest Management**
- A. Pest control program based on multiple-control practices.
 - B. Basic science of the plant and the animal kingdom.
 - C. all jobs related in some way to plants, animals, and renewable natural resources
 - D. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.
239. **A forage that grows in wet or poorly drained soil is**
- A. Reed canarygrass
 - B. Timothy
 - C. Fescue
 - D. Bird's-foot trefoil

240. **Ginger wants to obtain the floor. In order to be recognized, she should address the presiding officer by saying:**
- A. I desire to speak.
 - B. Your Honor.
 - C. I call for recognition.
 - D. Madame/Mr. Chairperson.
241. **The three primary nutrients supplied in a complete fertilizer are:**
- A. Carbon, hydrogen, and oxygen
 - B. Nitrogen, phosphorus, and potassium
 - C. Calcium, magnesium, and sulfur
 - D. Carbon, nitrogen, and sulfur
242. **The Management of wetlands, range-lands, water, fish and wildlife.**
- A. Forestry
 - B. Agriscience Mechanics
 - C. Renewable Natural Resources
 - D. Careers That Help Others
243. **Angela plans to conduct an SAE that is appropriate for students who want to use the scientific method. Which Research SAE is best for her to use?**
- A. experimental
 - B. invention
 - C. placement
 - D. service learning
244. **Turf**
- A. The turfgrass plant and soil immediately below it; also, grass used for decorative or soil-holding purposes.
 - B. Chemistry as it applies to living matter.
 - C. Science of soils and field crops.
 - D. Plants used for their appearance.
245. **The matching of genes to traits is called**
- A. Matching
 - B. Mapping
 - C. Meshing
 - D. Combining
246. **If given a deck of cards and asked to classify into groups and categories all would be appropriate except:**
- A. Group:ColorCategories:Red, Black
 - B. Group:SuitsCategories:Hearts, Spades, Clubs, Diamonds
 - C. Group:Number vs FaceCategories:Numbers, Faces
 - D. Group:NumbersCategories:2, 3, 4, 5, 6, 7, 8, 9, 10
247. **Which product is most commonly exported from the United States?**
- A. Bananas
 - B. Tea
 - C. Cocoa
 - D. Beef
248. **A person who studies and applies genetics:**
- A. Artificial Breeding Technician
 - B. Hatchery Manager
 - C. Geneticist
 - D. Microbiologist
249. **A goal of most professional agricultural organizations is to:**
- A. more paperwork
 - B. Maintain the old methods of farming
 - C. update its members on new methods, products, and technology
 - D. none of above

250. **Membership in FFA is traditionally limited to students who are**
- A. enrolled in Agriscience classes
 - B. enrolled at the school where the chapter is
 - C. plan to have a career in Agriscience
 - D. plan to go to college for Agriculture
251. **A warm season grass is:**
- A. Sweet Clover
 - B. Bromegrass
 - C. Reed Canarygrass
 - D. Bermuda Grass
252. **Ginning is the process used to**
- A. Prepare a seedbed for planting
 - B. Prepare crops for storage
 - C. Remove seeds from cotton
 - D. Prepare grain for use as alcohol
253. **sorting objects by similar characteristics**
- A. classifying
 - B. experimenting
 - C. observing
 - D. measuring
254. **What metal revolutionized agriculture?**
- A. iron
 - B. steel
 - C. aluminum
 - D. gold
255. **What does a scale drawing show?**
- A. Shows a sketch of an object that is larger or smaller than the drawing itself.
 - B. Shows 2 objects that are the same size.
 - C. Shows an object that is not up to scale and is in exact proportion of the drawing itself.
 - D. Shows an object that is larger or smaller than the drawing itself.
256. **The primary harvesting machine for field crops is the:**
- A. plow
 - B. rototiller
 - C. baler
 - D. combine
257. **The science of growing fruits, vegetables and ornamental plants:**
- A. agriculture
 - B. horticulture
 - C. agriscience
 - D. agribusiness
258. **Which is best to use when greater pressure is needed for gripping wood, metal, or other materials?**
- A. Groove joint pliers
 - B. Combination wrench
 - C. Long nose pliers
 - D. Adjustable wrench
259. **Purebred breeders use high-quality boars as a MAJOR way to:**
- A. Decrease the influence of marketing on prices.
 - B. Improve genetic makeup of one breed of swine.
 - C. Increase body fat on hogs.
 - D. Reduce hybrid vigor.
260. **Which belief is most reflected in the FFA Creed?**
- A. decline of agriculture
 - B. importance of getting the upper hand by any means possible
 - C. need to put others down in order succeed
 - D. value of life and work in agriculture and fair play in dealings

261. **According to the information presented in class, sustainable livestock production may include which of the following?**
- A. Decreased crop production
 - B. Free Roaming animals
 - C. Decreased water pollution
 - D. Limited animal welfare
262. **Which of the following sciences has to do with breeding fish?**
- A. Forestry
 - B. Floriculture
 - C. Botany
 - D. Aquaculture
263. **Of the many hands-on experiences available through SAE and FFA, which is most helpful in teaching to identify plants?**
- A. Preparing and delivering an extemporaneous speech
 - B. grading products in the Poultry Evaluation CDE
 - C. working as an intern at a nursery
 - D. reciting the FFA Creed
264. **Which would most likely study the digestible value of feeds?**
- A. Artificial breeding technician
 - B. Animal nutritionist
 - C. Butcher
 - D. none of above
265. **what does adjourn mean**
- A. items to be discussed in a certain order
 - B. to choose or accept
 - C. the person in charge of the meeting
 - D. to end the meeting
266. **Sulfur is used to LOWER soil pH so that the soil becomes more:**
- A. Acidic
 - B. Alkaline
 - C. Eroded
 - D. Porous
267. **Which of the following is the plant source of linseed oil?**
- A. Hay
 - B. Wheat
 - C. Flax
 - D. Corn
268. **Soil tubes obtain soil for testing while ____ bore into soil to get samples.**
- A. Soil thermometer
 - B. Soil auger
 - C. Soil tube
 - D. Soil dipstick
269. **A disadvantage of being an employee is:**
- A. overtime pay
 - B. regular hours
 - C. little or no control over future job
 - D. fringe benefits
270. **Of the many hands on experiences Sandy has through SAE and FFA, which is MOST helpful in helping her learn to identify plants?**
- A. Grading products in the poultry evaluation CDE
 - B. Preaping and delievering and extemporaneous speech
 - C. Reciting the FFA Creed
 - D. Working as an intern at a nursery
271. **What major plant science industry is the following career in? WINERY SUPERVISOR**
- A. Ornamental Horticulture

- B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
272. **What is a sketch?**
A. A rough drawing that is not to scale.
B. A rough drawing that is up to scale and includes measurements.
C. A rough drawing that is up to scale and has no dimensions.
D. A final draft of a drawing.
273. **What is the best tool to cut large branches when pruning shrubs that are hard to reach?**
A. bush axe
B. hedgeshears
C. chainsaw
D. lopping shears
274. **DNA is an acronym for:**
A. dynamite alert.
B. dibonucleic acid.
C. dioxynucleic acid.
D. deoxyribonucleic acid.
275. **Where is DNA located in the cell?**
A. Cell wall
B. Cytoplasm
C. Vacuole
D. Nucleus
276. **A producer's share of each dollar spent for bread and cereals in the US is about**
A. 11 cents
B. 15.4 cents
C. 25 cents
D. 75 cents
277. **Biological control of pests involves using _____ as a control.**
A. People
B. tilling
C. natural predators
D. pesticides
278. **Many professional agricultural organizations require their members to:**
A. attend weekly meetings
B. give a percentage of their profits to the organization
C. pay membership dues
D. take an oath
279. **What did Charles Townshend invent?**
A. iron plow
B. crop rotation system
C. steel moldboard plow
D. combine
280. **Which aquaculture system most likely requires Lorie to closely monitor wastewater through a biological filter before returning it to the growing area?**
A. cage culture
B. open ponds
C. recirculating tanks
D. net pens
281. **Which activity is most helpful in developing poise, confidence, and leadership?**
A. Cleaning up the school grounds
B. Identifying trees in a forestry class
C. Making an oral presentation or speech
D. Moving plants in a nursery
282. **Technology**
A. Application of science to an industrial or commercial objective; also, the equipment and expertise to cultivate, harvest,

- store, process, and transport crops for consumption.
- B. Modern principles and practice for animal growth and management
- C. Food that has been grown without the use of certain chemical pesticides.
- D. Science dealing with the characteristics of elements or simple substances.
283. **Which most likely uses biology and chemistry to develop new ways to control insects?**
- A. greenhouse manufacturer
- B. fertilizer dealer
- C. feed dealer
- D. entomologist
284. **What does CDE stand for?**
- A. Career Development Event
- B. Competition of Determining Events
- C. Career Development in Education
- D. Competing Department of Education
285. **What form must most nutrients become before they can be absorbed by the plant?**
- A. Air
- B. Gas
- C. Liquid
- D. Solid
286. **Modern Biotechnology**
- A. Cloning
- B. Insulin
- C. Embryo Transfer
- D. all of the above
287. **Of the many hands-on experiences Sandy has through SAE and FFA, which is most helpful in teaching her learn to identify plants?**
- A. Grading products in the Poultry Evaluation CDE
- B. Preparing and delivering an extemporaneous speech
- C. Reciting the FFA Creed
- D. Working as an intern at a nursery
288. **Finding and recording the location of genes is called:**
- A. matching.
- B. mapping.
- C. meshing.
- D. combining.
289. **The main source of carbohydrates in feeding swine is:**
- A. feed supplements
- B. cereal grains
- C. alfalfa hay
- D. tankage
290. **science of soil management and crops**
- A. agronomy
- B. animal science
- C. ag economics
- D. eg engineering
291. **Two sides of DNA strands are held together by base pairs. Two bases that pair together are:**
- A. guanine and adenine
- B. adenine and cytosine
- C. adenine and thymine
- D. thymine and guanine
292. **What did John Deere invent?**
- A. iron plow
- B. crop rotation system
- C. steel moldboard plow
- D. combine

293. **Sexual reproduction in plants is the propagation of plants by:**
- A. Flowers
 - B. Roots
 - C. Seeds
 - D. Stems
294. **Agriscience classes in high school usually include extensive instruction in**
- A. plants, animals, and agribusiness
 - B. plants, animals, and social sciences
 - C. plants, mechanics, and higher math
 - D. food, fiber, and physics
295. **Plants used for food, comfort, and beauty belong to which category?**
- A. Horticulture
 - B. Forestry
 - C. Agronomy
 - D. Aquaculture
296. **Sybal has performed several supplementary, improvement, and exploratory activities that count toward her agricultural education grade. The activities will be graded as:**
- A. Extra Credit
 - B. FFA Participation
 - C. Recreation
 - D. Supervised agricultural Experience
297. **Soil pH affects the availability of:**
- A. Nutrients in the soil
 - B. The structure of soil
 - C. The land class of soil
 - D. Microbes in the soil
298. **Renewable Natural Resources**
- A. Basic science of the plant and the animal kingdom.
 - B. Pest control program based on multiple-control practices.
 - C. Application of engineering principles in agricultural settings.
 - D. Resources provided by nature that can replace themselves.
299. **One of the first commercial products created by genetic engineering was:**
- A. artificial sweetener.
 - B. buttermilk.
 - C. insulin.
 - D. synthetic oil.
300. **The official colors of FFA are:**
- A. blue and yellow
 - B. navy blue and corn yellow
 - C. national blue and corn gold
 - D. none of above
301. **The symbol that signifies that FFA is a national organization is the:**
- A. corn
 - B. eagle.
 - C. owl
 - D. rising sun
302. **What is the meaning of the greek word logy?**
- A. study
 - B. work
 - C. write
 - D. speak
303. **Sybal has performed several service learning and school-based enterprise activities that count toward her agricultural education grade. The activities will be graded as:**
- A. recreation
 - B. FFA participation

- C. agricultural extra credit
D. Supervised Agricultural Experience
304. **What is the main advancement that has led to the overall improvement of dairy farms and allowed them to progress to commercial businesses?**
- A. Transportation
B. Technology
C. Genetics
D. Economics
305. **To lead is to**
- A. manage
B. organize
C. show the way
D. all of the above
306. **science of animal growth, care and management**
- A. animal science
B. entomology
C. aquaculture
D. turf
307. **Successful embryo transfers MOST likely require the services of a/an:**
- A. Veterinarian
B. Extension Agent
C. Herdsman
D. Nutritionist
308. **Genetics is known as:**
- A. the science of heredity.
B. the study of plant biology.
C. biochemistry.
D. biotechnology.
309. **The most important legume hay in the US is**
- A. Clover
B. Lespedeza
C. Bird's-foot trefoil
D. Alfalfa
310. **As a beginning agriculture student, Millie wants to learn about a lot of different career options. In which area of her foundational SAE should she start?**
- A. Agricultural Literacy
B. Career Exploration
C. Employability Skills
D. Workplace Safety
311. **Which of the following requirements varies based upon the type of seeds being planted?**
- A. Soil temperature
B. Planting Depth
C. Crop Spacing
D. All of the Above
312. **As a beginning agriculture student, Millie wants to learn about a lot of different career options. What SAE is BEST for her to conduct?**
- A. Exploratory
B. Improvement
C. Placement
D. Supplemental
313. **Hannah moves to amend the motion to have the banquet at the school cafeteria. What is she most likely trying to do to the motion?**
- A. Change it
B. Kill it
C. Preserve it
D. Restore it

314. **During whose birthday is the National FFA week celebrated each year?**
- Abraham Lincoln
 - George Washington
 - John F. Kennedy
 - Thomas Jefferson
315. **___ cycling water between water sources, atmosphere, and surface areas**
- Water Table
 - Watershed
 - Water Cycle
 - none of above
316. **The Advisor is stationed by the ___**
- flag
 - sun
 - owl
 - plow
317. **Business that was started but not completed in the last meeting is referred to as:**
- Committee Reports.
 - New Business.
 - Old Business.
 - Order of Business.
318. **What are the three most common ways Seth can amend a motion?**
- Adding, striking out, or substituting
 - Combining, blending, or referring
 - Delaying, avoiding, or defeating
 - Withdrawing, rescinding, or conferring
319. **what is Real - world experience?**
- A supervised experience program
 - conducting the activity in the daily routine of our society
 - opportunities for earning while learning
 - experience obtained while working in actual job setting
320. **Determining reasons that customers may wish to buy a product or service is called the:**
- buying function
 - distribution function
 - promoting function
 - selling function
321. **Freshmen members are asked to learn the FFA Creed because it:**
- gives the teacher time to relax. LOL but for real.
 - helps students develop the skills necessary to compete in the Tool Identification Career Development Event (CDE).
 - is used by FFA in the place of saying the Pledge of Allegiance to the American flag.
 - represents the beliefs and values that the FFA stands for and members need to know.
322. **What connects the pairs of strands that make up the double helix of DNA?**
- Bases
 - Starches
 - Sugars
 - Tar
323. **What is the usual number of offspring a cow has in one calving?**
- 3
 - 1
 - 0
 - 2

324. **The use of airplanes is an example of ____ seeding**
- A. Row crop
 - B. Drill
 - C. Aerial
 - D. Broadcast
325. **Which term describes the organization and transportation of the product?**
- A. marketing
 - B. distribution
 - C. production
 - D. processing
326. **In the ____ till method of seedbed preparation, seeds are planted directly into the residue of the previous crop without exposing the soil.**
- A. no
 - B. conventional
 - C. minimum
 - D. row
327. **What is a scale drawing?**
- A. A scale drawing is one that represents an object not up to scale.
 - B. A rough drawing that is not to scale.
 - C. A scale drawing is one that represents an object in exact proportion.
 - D. A drawing that shows all three dimensions at once.
328. **____ water that drains out of a soil right after it has been wetted.**
- A. Free (gravitational)
 - B. Capillary
 - C. Hygroscopic
 - D. none of above
329. **Why is precipitation important in the water cycle?**
- A. keeps moisture in a gaseous state
 - B. rate of air movement in the soil
 - C. release of moisture as rain or snow
 - D. size of soil particles
330. **____ is a valve for attaching a water hose and turning water supply on and off.**
- A. Hose Bib
 - B. Water Hose
 - C. Watering Bucket
 - D. Calculator
331. **Which plant growing medium is a mineral mica-type material?**
- A. peat moss
 - B. perlite
 - C. soil
 - D. vermiculite
332. **What symbol on the FFA emblem represents the progressive nature of agriscience, and the need for workers in agriscience to cooperate and work toward common goals?**
- A. American flag
 - B. Plow
 - C. Rising sun
 - D. Owl
333. **____ the top layer of the Earth's surface, which is suitable for the growth of plant life**
- A. Wildlife
 - B. Soil Resources
 - C. Water Resources
 - D. none of above

334. **The national FFA Foundation was established in what year 1944**
- A. 1928
 - B. 1955
 - C. 1944
 - D. 1971
335. **One of the limitations of bioremediation, as compared to the use of chemical techniques, is:**
- A. emissions
 - B. space
 - C. time
 - D. oil
336. **What is a product of genetic engineering?**
- A. Herbicide resistant crops
 - B. Hybrid Seed
 - C. Ice Cream Sundaes
 - D. Soft Drinks
337. **The moldboard plow is the primary tillage machine for the ____ tillage system.**
- A. No-till
 - B. Conventional
 - C. Minimum
 - D. None of the answers are correct
338. **The best tool to use when trimming and shaping shrubbery is the:**
- A. chain saw
 - B. hedge shears
 - C. lopping shears
 - D. pruning shears
339. **Which term describes making consumers aware of the product?**
- A. sales
 - B. marketing
 - C. distribution
 - D. processing
340. **Who works in the field tagging animals, gathering data and assisting with research**
- A. Soil Technician
 - B. Wildlife Technician
 - C. Wildlife Manager
 - D. Ecologist
341. **Who provides assistance in managing forests for the private landowner as well as the commercial grower?**
- A. Forester
 - B. Timber Cruiser
 - C. Logging Foreman
 - D. Skidder Operator
342. **Planting trees at a site polluted by industrial chemicals to absorb the chemicals is called:**
- A. genetic engineering
 - B. biostimulation
 - C. oleophilic cleanup
 - D. phytoremediation
343. **Agricultural Economics**
- A. Animal growth, care, and management.
 - B. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.
 - C. Basic science of the plant and the animal kingdom.
 - D. Management of agricultural resources, including farms and agribusinesses.
344. **Genetically modified organisms that are safety tested in laboratories and greenhouses before they are tested outdoors are also monitored by:**
- A. county government.
 - B. nursery operators.

- C. state and federal government.
D. chemical salespeople.
345. **Which organization most likely has as its primary purpose the support of the student organization for agricultural education?**
A. FFA Alumni Association
B. National Agricultural Teacher's Association
C. National Agricultural Education Council
D. Teamsters' Union
346. **A breed of cattle that is red with a white face and raised primarily for beef production is:**
A. Angus.
B. Hereford
C. Brahman
D. none of above
347. **A Career Pathway is:**
A. Jobs in Agriscience
B. Careers in construction
C. Careers grouped by similar interests
D. Jobs in school
348. **Science of insect life**
A. entomology
B. horticulture
C. agronomy
D. animal sciences
349. **What major plant science industry is the following career in? GREENHOUSE MANAGER**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
350. **What does a harvester do?**
A. takes product from the field
B. separates grain from chaff
C. cuts and bundles grasses
D. takes product, cuts, and separates
351. **Public Law 740 passed by Congress in 1950 granted the FFA:**
A. a new purpose.
B. a federal charter.
C. unlimited money.
D. a new name.
352. **___ is suitable for only pasture and lawns because it grows only 6-12" high.**
A. Dallis grass
B. Kentucky bluegrass
C. Sweet clover
D. Orchard grass
353. **___ water that plant roots can absorb**
A. Capillary
B. Free
C. Hygroscopic
D. none of above
354. **In what year did agriculture teachers network across the United States in a team effort to form the National FFA Organization?**
A. 1970
B. 1890
C. 1928
D. 1958
355. **The maize plant is also known as:**
A. corn
B. wheat
C. barley
D. cotton

356. **A breed of cattle with black and white markings is:**
- A. Yorkshire
 - B. Hampshire
 - C. Holstein
 - D. none of above
357. **What is a castrated male cow?**
- A. Barrow
 - B. Heifer
 - C. Steer
 - D. Gelding
358. **___ advises private forest land owners.**
- A. Soil Scientist
 - B. Forestry consultant
 - C. Logger
 - D. none of above
359. **Which is a widely used bio-indicator species used to detect air that is badly polluted with sulfur dioxide?**
- A. E. coli
 - B. bacteria
 - C. lichens
 - D. viruses
360. **Choose the statement that most correctly reflects our current food supply as compared to all other counties.**
- A. The U.S. has the most abundant, safest and most expensive food supply
 - B. The U.S. has the least abundant, least safe and least expensive food supply
 - C. The U.S. has the safest, most abundant and least expensive food supply
 - D. The U.S. has the least expensive, average abundant and safest food supply
361. **What is the industry that grows forages like grains, corn, etc?**
- A. Agronomy
 - B. Forestry
 - C. Horticulture
 - D. Aquaculture
362. **What major plant science industry is the following career in? GOLF COURSE SUPER-INTENDENT**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
363. **___ reduces the impact of water pressure on soil and plants**
- A. Watering Wand
 - B. Water Breaker
 - C. Hose Bib
 - D. Hozon Sprayer
364. **What item on the agenda reminds members of what happened at the last meeting?**
- A. Reading of the Minutes
 - B. Financial Report
 - C. Adjournment
 - D. Call to Order
365. **Which of the following should take place when living organisms are causing damage to crops?**
- A. Tillage
 - B. Fertilizer
 - C. Pesticides & Herbicides
 - D. Irrigation
366. **Mozambic wants to study a problem in agriculture that is not easily tested by experimentation. His study will BEST be considered as what type of SAE?**

- A. Analytical
B. Easy
C. Placement
D. Production
367. **The first line of the FFA motto is:**
A. "Doing to learn."
B. "Earning to live."
C. "Learning to do."
D. "Living to serve."
368. **Who uses soil auger/soil tube to take soil samples and do technical field work?**
A. Soil Technician
B. Wildlife Technician
C. Wildlife Manager
D. Ecologist
369. **choice highly acidic**
A. highly basic
B. neutral
C. slightly acidic
D. none of above
370. **Blood, pH of 7.4**
A. acid
B. base
C. neutral
D. none of above
371. **Businesses that are affected by farming include:**
A. fuel companies
B. banks
C. Insurance agents
D. all of the above
372. **What major plant science industry is the following career in? LANDSCAPE CONTRACTOR**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
373. **Which is not a function of managers?**
A. actuating
B. controlling and evaluating
C. organizing people and resources
D. setting policy
374. **Silas is unsure if the motion is in order. The parliamentarian instructs him that the maximum number of main motions that can be on the floor at any one time is:**
A. 6
B. 4
C. 2
D. 1
375. **Which of the following was not listed as a benefit of sustainable agriculture?**
A. Preserving the Environment
B. Increasing Livestock Production
C. Protecting Public Health
D. Sustaining Communities
376. **What is one example of genetic control of pests is**
A. Planting a crop when insects are not present
B. Releasing sterile male insects
C. Releasing an insect that feeds only on a certain weed.
D. Planting a variety of a crop that grows more rapidly than weeds.

377. **What major plant science industry is the following career in?PRODUCE MANAGER**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
378. **Which is true of DNA?**
- A. cannot be duplicated
 - B. found in all living cells
 - C. found only in male cells
 - D. produced only in a test tube
379. **What is going to be the key to an adequate food supply in the new millennium?**
- A. more farms
 - B. more grants
 - C. agriscience research
 - D. availability of farm land
380. **What major plant science industry is the following career in?NURSERY OPERATOR**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
381. **Organic Food**
- A. Science dealing with the characteristics of elements or simple substances.
 - B. Food that has been grown without the use of certain chemical pesticides.
 - C. Animal growth, care, and management.
 - D. Teaching and program management in agriculture.
382. **Why are some government leaders slow to implement agriscience?**
- A. they are uneducated about benefits
 - B. scared of new technology
 - C. may cause higher taxes
 - D. may cause massive unemployment
383. **What is the best tool for cutting thin metal?**
- A. Arc welder
 - B. Hacksaw
 - C. Handsaw
 - D. Oxyacetylene torch
384. **Vinegar, 3.0**
- A. acid
 - B. base
 - C. neutral
 - D. none of above
385. **how many acres of forestry do louisiana have**
- A. 14.9 million
 - B. 11.7 million
 - C. 12.3 million
 - D. 23.7 million
386. **Horticulture**
- A. Use of cells or components of cells to produce products or processes.
 - B. All aspects of water conservation and management.
 - C. Science dealing with the characteristics of elements or simple substances.
 - D. The science of producing, processing, and marketing fruits, vegetables, and ornamental plants.
387. **What is SAE?**
- A. superior agriculture education
 - B. supervised agriculture experience
 - C. significant agriculture endurance
 - D. standard agriculture expectations

388. **In what year did the FFA and NFA merge?**
- A. 1950
 - B. 1965
 - C. 1969
 - D. 1988
389. **What do you call a newborn horse?**
- A. Calf
 - B. Colt
 - C. Lamb
 - D. Foal
390. **Which of the following is not one of the three pillars of sustainability?**
- A. Social
 - B. Environmental
 - C. Economic
 - D. Political
391. **Entomology**
- A. Chemistry as it applies to living matter.
 - B. Science of insect life.
 - C. Basic science of the plant and the animal kingdom.
 - D. Space and mass around us.
392. **What is the name of the region that the Eastern Guilford FFA is a part of?**
- A. Central
 - B. West Central
 - C. North Central
 - D. East Central
393. **The female part of a flower is called the:**
- A. Pistil
 - B. Petal
 - C. Anther
 - D. Filament
394. **What is the meaning of the greek word bios?**
- A. life
 - B. study
 - C. environment
 - D. nature
395. **Changing a characteristic by removing and inserting genes into DNA is known as gene:**
- A. mapping.
 - B. masking.
 - C. splicing.
 - D. swapping.
396. **___ the one responsible for the health and well-being of our cities trees**
- A. Urban Forster
 - B. Wildlife manager
 - C. Wildlife Officer
 - D. none of above
397. **When In what year was the name change from Future Farmers of America to the National FFA Organization**
- A. 1965
 - B. 1969
 - C. 1988
 - D. 2012
398. **Agricultural Engineering**
- A. Application of engineering principles in agricultural settings.
 - B. Pest control program based on multiple-control practices.
 - C. Space and mass around us.
 - D. Basic science of the plant and the animal kingdom.

399. **The FFA Creed was written by ____**
- A. Henry Groseclose
 - B. Jimmy Carter
 - C. George Washington
 - D. E.M. Tiffany
400. **A scientist concerned with the study of plant and animal microorganisms:**
- A. Microbiologist
 - B. Animal Nutritionist
 - C. Butcher
 - D. Animal Technician
401. **A major advantage of owning a business is:**
- A. control over your destiny
 - B. financial responsibility
 - C. the relationship of business income and family finances
 - D. a shorter work week
402. **Industrial Technology**
- A. Use of modern principles in growing and managing crops.
 - B. The application of science to industrial uses.
 - C. All aspects of water conservation and management.
 - D. Chemistry as it applies to living matter.
403. **What part of the agenda is the President responsible for?**
- A. Reading of the minutes
 - B. financial report
 - C. providing of refreshments
 - D. Call to Order
404. **Haley learned that part of her grade in agricultural education was given for work-based learning activities that help her gain employability skills for college and career readiness. She learned the grade was for:**
- A. early graduation
 - B. FFA participation
 - C. Supervised Agricultural Experience
 - D. becoming established in an agriscience occupation
405. **The only acceptable way to start a motion is to say**
- A. "I believe"
 - B. "I make a motion that"
 - C. "I move"
 - D. "I think"
406. **Chemistry**
- A. Space and mass around us.
 - B. Food that has been grown without the use of certain chemical pesticides.
 - C. Use of cells or components of cells to produce products or processes.
 - D. Science dealing with the characteristics of elements or simple substances.
407. **Aaron makes a motion to have a cookout. What is the most acceptable way for him to state the motion?**
- A. "I believe we should have a cookout."
 - B. "I make a motion that we have a cookout."
 - C. "I move we have a cookout."
 - D. "I think that we should have a cookout."
408. **At which career development event (CDE) is a student given 30 minutes to prepare a speech on an agricultural topic and then present that speech to a panel of judges?**
- A. agricultural sales
 - B. extemporaneous public speaking
 - C. prepared public speaking
 - D. the FFA Creed

409. **A species of fish most often raised in aquaculture systems where there is cold, running water in streams is:**
- A. trout
 - B. catfish
 - C. sunfish
 - D. none of above
410. **What did Thomas Jefferson invent?**
- A. iron plow
 - B. crop rotation system
 - C. steel moldboard plow
 - D. combine
411. **How do you neutralize at acid?**
- A. add water, 7.0
 - B. add a base
 - C. add an acid
 - D. none of above
412. **What do professional Agricultural organizations often provide for their members**
- A. trade shows
 - B. free equipment
 - C. medical care
 - D. transportation
413. **The only acceptable way to start a motion in an FFA meeting is to say,**
- A. I motion that
 - B. I believe
 - C. I make a motion that
 - D. I move
414. **Membership in FFA is limited to youth who are**
- A. are in the country
 - B. enroll in an agriscience program in school
 - C. plan careers in agriscience
 - D. seek leadership training
415. **The best tool to use when joining the woody part of one plant to the woody part of another plant asexually is:**
- A. lopping shears
 - B. grafting tool
 - C. tube cutter
 - D. pruning shears
416. **What major plant science industry is the following career in? FORAGE MANAGER**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
417. **What are Natural Resources?**
- A. Manmade items on Earth
 - B. Physical features on Earth
 - C. Anything Living
 - D. Animals and Plants
418. **Of all agriscience jobs, the percentage that is not on the farms or ranches is**
- A. 20 percent
 - B. 40 percent
 - C. 60 percent
 - D. 80 percent
419. **The acronym USDA stands for the government agency known as:**
- A. United States Department of Agriculture
 - B. United States Division of Agriculture
 - C. Universal Standards of Democrats in America
 - D. United States Development of Agriculture

420. **Experience means?**
- A. permit individualization of instruction
 - B. to become established in an agri-science business
 - C. anything and everything observed, done, or lived through
 - D. none of above
421. **Professional Agricultural Organizations are often related to a:**
- A. a piece of equipment
 - B. commodity
 - C. legislator
 - D. specific company
422. **The Eastern Guilford FFA is what level of FFA?**
- A. Chapter
 - B. Region
 - C. State
 - D. National
423. **Land-grant universities such as North Carolina A&T and North Carolina State were established to teach:**
- A. agriculture and accounting
 - B. agriculture and hospitality
 - C. agriculture and conduct agricultural research
 - D. biology, chemistry, and physics
424. **Which is true of FFA extemporaneous speeches?**
- A. Delivered with little or no preparation.
 - B. Never used in public speaking
 - C. Usually 20 to 30 minutes in length
 - D. Planned and practiced for days before delivery
425. **What major plant science industry is the following career in? PLANT BREEDER**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
426. **The management of wetlands comes under the area of**
- A. agricultural processing, products, and distribution
 - B. agriscience professions
 - C. horticulture
 - D. renewable natural resources
427. **What type of plant has bacteria that can fix nitrogen from the air to the soil?**
- A. monocots
 - B. dicots
 - C. angiosperms
 - D. legumes
428. **Gradie has records for exploratory, entrepreneurship, and placement SAE activities. How can he BEST keep up with what he has done?**
- A. Ask the teacher to keep hte records in a class roll book.
 - B. Keep a shoe box with scraps of paper to remind him of activites
 - C. Maintain an up to date record book or computer file
 - D. Throw receipts in the glove compartment of his car or truck.
429. **Which tool would best be used for making a quick cut on a jobsite?**
- A. Table Saw
 - B. Miter Saw
 - C. Drill
 - D. Circular Saw

430. **Which value is regularly taught with leadership skills learned through FFA participation?**
- A. Greed
 - B. Isolationism
 - C. Patriotism
 - D. Selfishness
431. **Before presenting a prepared speech to an audience, the best way a speaker can improve the presentation is by:**
- A. drinking plenty of water to prevent thirst during speaking
 - B. practicing the speech before a mirror to observe posture, gestures, and facial expressions
 - C. making a copy of manuscript to place in a personal file
 - D. listening to the sounds of the ocean waves and seagulls
432. **Biology**
- A. Science dealing with the characteristics of elements or simple substances.
 - B. Chemistry as it applies to living matter.
 - C. Basic science of the plant and the animal kingdom.
 - D. Science of soils and field crops.
433. **Flax is an example of a/an ____ crop.**
- A. Oilseed
 - B. Sugar
 - C. Grain
 - D. Fiber
434. **What is the purpose of a sketch?**
- A. To finalize ideas on a drawing surface.
 - B. To record or develop an idea for later use that is up to scale.
 - C. For the purpose to provide a quick way of graphically demonstrating an image or idea.
 - D. For the purpose to provide an opportunity to create bad graphic designs.
435. **Which one of the following is a field crop?**
- A. rice
 - B. blueberries
 - C. crawfish
 - D. pecans
436. **Recombinant DNA technology can best be described as involving the:**
- A. design of farm equipment through computer imaging.
 - B. implementation of soil conservation practices.
 - C. manipulation of the genetic content of cells.
 - D. study of rock formations using global positioning satellites.
437. **What do you call a mature female sheep?**
- A. Ewe
 - B. Cow
 - C. Mare
 - D. Filly
438. **What is the best tool for driving out metal pins?**
- A. Pin punch
 - B. Nail set
 - C. Hacksaw
 - D. Countersink
439. **what is the total amount of feed grain produced**
- A. 354.8m
 - B. 430.2m
 - C. 297.9m
 - D. 308.7m

440. **What exactly is the purpose of a napkin sketch?**
- A. They help you see what you think about a topic and provides a quick way to express an idea on a surface.
 - B. To sketch a quick idea of a up to scale drawing.
 - C. To use as a surface for a final draft of an idea.
 - D. They help to sketch quick ideas that are final and up to scale.
441. **developing an assumption of the outcome**
- A. predicting
 - B. inferring
 - C. experimenting
 - D. measuring
442. **Which is not a purpose of FFA**
- A. develop leadership
 - B. intelligent choice of agriscience occupations
 - C. promote scholarship
 - D. promote self above others
443. **Why is correct soil pH important?**
- A. plants can't uptake nutrients at certain pHs
 - B. plants get cold at certain pHs
 - C. plants get disease at certain pHs
 - D. plants can't uptake water at certain pHs
444. **A silo is used to store:**
- A. Silage
 - B. Pasture
 - C. Hay
 - D. Cubes
445. **In what year were girls allowed in the FFA for the first time?**
- A. 1950
 - B. 1965
 - C. 1969
 - D. 1988
446. **Why is biotechnology-produced BST given in supplemental doses to dairy cows?**
- A. increase muscle for meat
 - B. produce only female offspring
 - C. produce large calves
 - D. increase milk production
447. **Three taps of the gavel signals the members to**
- A. Say the pledge
 - B. Rise
 - C. Be Seated
 - D. Vote
448. **When laying out projects to be built, one may create 45- and 90-degree angles by using a:**
- A. framing square.
 - B. ruler
 - C. combination square
 - D. try square.
449. **The first degree a High School student can get is a?**
- A. Greenhand
 - B. Discovery
 - C. Chapter
 - D. State
450. **We spend 6% of our income on food. Therefore for every \$100 dollars in income we make we spend ____ on food.**
- A. 1\$

- B. 6\$
C. 70\$
D. 20\$
451. **Sustainability stems from the idea of which of the following?**
A. Sustainable development
B. Reduce, Reuse, Recycle
C. Combating Climate Change
D. Increased Population Growth
452. **What is the primary function of the root?**
A. Anchors plant and supply water and nutrients
B. Make sure the plant will grow
C. Ensure the plant can be propagated
D. Hold stem of the plant
453. **Who advises private forest land owners?**
A. Soil Conservationist
B. Soil Scientist
C. Silviculturist
D. Forestry Consultant
454. **comparing unknown quantities to a reference**
A. observing
B. inferring
C. predicting
D. measuring
455. **What is a pictorial drawing?**
A. A pictorial drawing only shows the side and top dimensions.
B. A pictorial drawing only shows the front and side dimensions.
C. A pictorial drawing shows all two dimensions at once.
D. A pictorial drawing shows all three dimensions at once.
456. **Major types of root systems are:**
A. Cell division and fibrous
B. Cuttings and root hairs
C. Fibrous and root cap
D. Fibrous and taproot
457. **The type of mower that cuts with a scissors-type action is a ____ type mower.**
A. Rotary
B. Sickle-bar
C. Flail
D. Vibrating
458. **Joy is working part-time at the Green Thumb Garden Center. What type of SAE is she involved in?**
A. Protective
B. Placement
C. Exploratory
D. Entrepreneurship
459. **Which type of chicken is used for meat?**
A. Bantam
B. Layer
C. Broiler
D. Turkey
460. **What do you call a castrated male horse?**
A. Steer
B. Gelding
C. Wether
D. Capon
461. **Which tool would best be used for cutting angles to a specific degree?**
A. Table Saw
B. Miter Saw
C. Drill
D. Circular Saw

462. **Most tape measures found in the agriculture shop will measure to an accuracy of:**
- A. 1/8 inch
 - B. 1/16 inch
 - C. 1/32 inch.
 - D. 1/64 inch.
463. **Which of the following was not listed as a service the environmental resource management provides?**
- A. Air Quality
 - B. Safety
 - C. Risk Management
 - D. Marketing
464. **Organic food is a term used for foods that have been grown:**
- A. with limited use of chemical pesticides
 - B. without the use of chemical pesticides
 - C. in freshly turned soil
 - D. in controlled environments
465. **Omar is part owner of a greenhouse that grows tomatoes for the local market. What type of SAE is he involved in?**
- A. Analytical
 - B. Entrepreneurship
 - C. Placement
 - D. Protective
466. **What do you call a young female horse?**
- A. Filly
 - B. Wether
 - C. Barrow
 - D. Mare
467. **How many compartments are found in the ruminant digestive system of a cow?**
- A. 2
 - B. 3
 - C. 4
 - D. none of above
468. **Agriscience includes studying:**
- A. Farming
 - B. Soil
 - C. Hunting and Fishing
 - D. All of the above
469. **The definition of Agriscience jobs are:**
- A. all jobs related in some way to plants, animals, and renewable natural resources
 - B. Resources provided by nature that can replace themselves.
 - C. Application of engineering principles in agricultural settings.
 - D. Pest control program based on multiple-control practices.
470. **How much more acid is a 2.0 than a 3.0?**
- A. 10 times
 - B. 100 times
 - C. -10 times
 - D. -100 times
471. **What major plant science industry is the following career in? AGRONOMIST**
- A. Ornamental Horticulture
 - B. Fruit & Vegetable Production
 - C. Agronomy
 - D. General Plant Science
472. **How long is the gestation period of swine?**
- A. 9 months and 9 days
 - B. 6 months and 3 weeks
 - C. 3 months, 3 weeks, 3 days
 - D. 12 months, 2 weeks, 2 days

473. **A person who works in the equine industry is primarily working with:**
- A. cats
 - B. hogs
 - C. horses
 - D. sheep
474. **In what year did the FFA receive a federal charter from Congress (Public Law 740)?**
- A. 1920s
 - B. 1928
 - C. 1935
 - D. 1950
475. **Bacteria that are attracted to oil used to clean up oil spills are called:**
- A. bioindicators
 - B. oleophilic
 - C. algae
 - D. lichens
476. **What was one of the first commercial products made by genetic engineering?**
- A. insulin
 - B. golden rice
 - C. ethanol
 - D. fertilizer
477. **Who assists landowners in implementing best land use practices?**
- A. Soil Conservationist
 - B. Soil Scientist
 - C. Silviculturist
 - D. Forestry Consultant
478. **The first domesticated animal was?**
- A. Sheep
 - B. Cow
 - C. Dog
 - D. Horse
479. **Agriculture**
- A. The application of science to industrial uses.
 - B. Activities concerned with the production of plants and animals, and the related supplies, services, mechanics, products, processing, and marketing.
 - C. The study of the properties and management of soil to grow plants.
 - D. Space and mass around us
480. **Businesses that have developed with or stem out of agriculture:**
- A. agriculture
 - B. horticulture
 - C. agriscience
 - D. agribusiness
481. **What is a castrated male of the cattle breed called?**
- A. Gelding
 - B. Steer
 - C. Barrow
 - D. Wether
482. **Which is the most accurate statement about food insecurity?**
- A. It is a problem mainly in African countries
 - B. It is a global problem
 - C. It is a problem only in Asian countries
 - D. It is only a problem where governments are corrupt
483. **Who does research on habitat and wildlife and advises government agencies in establishing fish/game laws and habitat improvement programs? Requires minimum of bachelor's degree (4 yr)**
- A. Urban Forester
 - B. Wildlife Biologist

- C. Wildlife Manager
D. Game Warden
484. **Agribusiness**
A. Raising of finfish, shellfish, and other aquatic animals under controlled conditions. Also, the management of the aquatic environment for production of plants and animals.
B. Use of cells or components of cells to produce products or processes.
C. businesses that have developed with or stem out of agriculture.
D. The turfgrass plant and soil immediately below it; also, grass used for decorative or soil-holding purposes.
485. **What major plant science industry is the following career in? VEGETABLE GROWER**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
486. **___ is one who harvests trees**
A. Logger
B. Soil Scientist
C. Forester
D. none of above
487. **A career that involves moving downed trees from the cutting site to the loading area:**
A. timber cruiser
B. logging foreman
C. skidder operator
D. forest technician
488. **What's the best temperature for photosynthesis works best in?**
A. 80-90
B. 50-60
C. 65-85
D. 85-95
489. **What major plant science industry is the following career in? LANDSCAPE ARCHITECT**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
490. **The science involved in the cultivation, propagation, processing, and marketing of items such as flowers and vegetables is known as:**
A. entomology
B. agronomy
C. horticulture
D. ornamentation
491. **The propagation method where a plant is separated into smaller parts is:**
A. division
B. grafting
C. air layering
D. tip layering
492. **What major plant science industry is the following career in? GROUNDSKEEPER**
A. Ornamental Horticulture
B. Fruit & Vegetable Production
C. Agronomy
D. General Plant Science
493. **Who is responsible for the health and well-being of our cities trees?**
A. Urban Forester
B. Wildlife Biologist
C. Wildlife Manager
D. Game Warden

494. **Who who harvests trees for a living?**
- A. Soil Conservationist
 - B. Soil Scientist
 - C. Logger
 - D. Forestry Consultant
495. **Hope makes a motion to have a dance, but before discussion from the floor can occur on the motion, it must be:**
- A. amended.
 - B. seconded.
 - C. tabled.
 - D. voted on.
496. **management of agriculture resources**
- A. ag economics
 - B. ag engineering
 - C. aquaculture
 - D. agribusiness
497. **Adjournment means that:**
- A. the floor is open for business.
 - B. the group must move to a new location.
 - C. the group will no longer conduct official business in the meeting.
 - D. recreation is not allowed after meetings.
498. **The most important grain crop in the world is:**
- A. Barley
 - B. Corn
 - C. Wheat
 - D. Rice
499. **how many pounds of rice been produced**
- A. 1.4b
 - B. 2.7b
 - C. 3.2b
 - D. 6.1b
500. **Which is not a trait of a good leader?**
- A. courage
 - B. integrity
 - C. selfishness
 - D. tact
501. **Which one of the following is a horticulture crop?**
- A. Peaches
 - B. Rice
 - C. Sugarcane
 - D. Cotton
502. **What is the fruit of the flower?**
- A. Ovule
 - B. Ovary
 - C. Style
 - D. Stigma
503. **Which is the first degree of membership for high school FFA members?**
- A. Greenhand Degree
 - B. Chapter FFA Degree
 - C. State FFA Degree
 - D. American FFA Degree
504. **What technique was used to clean up the Exxon Valdeze oil spill?**
- A. bioremediation
 - B. indicator species
 - C. phytoremediation
 - D. genetic engineering
505. **The harvesting of ____ requires the most labor of any of the forages.**
- A. Pasture
 - B. Hay
 - C. Silage
 - D. Haylage

506. **Generally done on small plots. It includes producing, processing, and marketing fruits, vegetables, and ornamental plants.**
- Horticulture
 - Agriscience Supplies and Services
 - Forestry
 - Agriscience Professional
507. **When analyzing competing products or services, which is not a function?**
- price
 - quality
 - service
 - supply
508. **The industry that provides commodities that are basic to life is**
- aerospace
 - agriscience
 - biotechnology
 - transportation
509. **using the five senses to detect information**
- classifying
 - observing
 - predicting
 - measuring

1.18 Animal Production

- Tilapia and cascadura are examples of:**
 - Shellfish
 - Crustacean
 - Fish
 - Aquatic Plants
- Which part of the bird digestive system contains grit for some birds to help grind their food?**
 - crop
 - gizzard
 - proventriculus
 - cloaca
- Poultry Houses May Be Classified According to:**
 - The number of rooms or pens they contain
 - Their portability or permanence
 - The style of roof
 - All of the above
- How many eggs can an ostrich produce per year?**
 - 5-10
 - 15-20
 - 30-50
 - none of above
- Where the amount of free space available is limited this system is adopted, but it is necessary to allow the birds 20-30 square yards per bird of outside run. Wherever possible this space should be divided giving a run on either side of the house of 10-15 square yards per bird, thus enabling the birds to move onto fresh ground.**
 - Free - range or extensive system
 - Semi - intensive system
 - Folding unit system
 - Intensive system
- Ruminants have ____ complex stomach structures**
 - 1

- B. 2
C. 3
D. 4
7. **These are examples of ruminants:**
A. pigs, horses, humans and chickens
B. sheep, goats, cattle, deer, giraffes
C. pigs, sheep, cattle, chickens
D. pigs, hippos, llamas
8. **It is the oldest system and has been used for centuries by general farmers, where there is no shortage of land.**
A. Free - range or extensive system
B. Semi - intensive system
C. Folding unit system
D. Intensive system
9. **This system of housing is an innovation of recent years. In portable folding units birds being confined to one small run, the position is changed each day, giving them fresh ground and the birds finding a considerable proportion of food from the herbage are healthier and harder.**
A. Free - range or extensive system
B. Semi - intensive system
C. Folding unit system
D. Intensive system
10. **Define feral**
A. raised and trained to perform an unusual activity that is not natural for an animal
B. bred and raised for a variety of purposes
C. they are wild and not domesticated and live in an area where they're provided the land that is maintained by humans
D. none of above
11. **Meat from young sheep is called ____**
A. Veal
B. Beef
C. Hen
D. Turkey
12. **Space requirement of mature sow per square meter**
A. 1
B. 2.5
C. 2
D. 3
13. **how many eggs can layer chicken produce in one year**
A. 320
B. 456
C. 34
D. none of above
14. **Which of the following is not present in ruminants?**
A. top front teeth
B. lower front teeth
C. molar teeth
D. premolar teeth
15. **This type of roof is ideal for big establishment especially in commercial farms. It is actually double span with an outlet of air at the top of the roof.**
A. Shed
B. Monitor
C. Gable
D. Semi-monitor
16. **Which is not a design for ventilation system?**
A. Natural ventilation
B. Artificial ventilation

- C. Automatically controlled natural ventilation system
D. Fan ventilation system
17. **The ruminant structures are:**
A. esophagus, mouth, teeth and cecum
B. rumen, reticulum, omasum and abomasum
C. stomach, small intestine large intestine
D. none of above
18. **What are llamas bred for?**
A. meat
B. hair
C. pack animals
D. all correct
19. **Fish eggs are called ____**
A. Caviar
B. Eggs
C. Capon
D. Veal
20. **What animal was once considered an exotic animal, but not is not?**
A. Pot-bellied pigs
B. Alligators
C. Elk
D. none of above
21. **What type of agricultural product comes from pigs?**
A. beef
B. mutton
C. pork
D. chicken
22. **The Rumen is also called a ____**
A. Large stomach
B. 4 chambered stomach
C. Fermentation Vat
D. Real stomach
23. **The most fundamental purpose of livestock is ____**
A. The fact that they can convert material we cannot use into food
B. They can make you large amounts of money
C. They provide most of the employment in the Caribbean
D. They are very difficult to manage and feed
24. **This type of roof is similar to the monitor type except that the outlet of air is made on one side only.**
A. Shed
B. Monitor
C. Gable
D. Semi-monitor
25. **which is not an exotic animal?**
A. llama
B. alpaca
C. cat
D. alligator
26. **This system is usually adopted where land is limited and expensive. In this system the birds are confined to the house entirely, with no access to land outside.**
A. Free - range or extensive system
B. Semi - intensive system
C. Folding unit system
D. Intensive system

27. **This type of roof is used in small construction which makes use of the simplest materials.**
- A. Shed
 - B. Monitor
 - C. Gable
 - D. Semi-monitor
28. **Which part of the bird digestive system acts as an area to moisten and store eaten food?**
- A. crop
 - B. gizzard
 - C. proventriculus
 - D. cloaca
29. **a large protected area where exotic animals are housed in a constructed setting that resembles their natural habitat**
- A. zoo
 - B. animal refuge
 - C. captivity
 - D. none of above
30. **When ruminants “chew the cud”, they are**
- A. regurgitating food to chew it again
 - B. belching to release gas from fermenting food
 - C. passing gas!
 - D. regurgitating food they don't want
31. **What is a meat animal?**
- A. An animal primarily raised for its meat
 - B. An animal raised for its hair
 - C. An animal raised for its eyes
 - D. An animal raised for its milk
32. **A pig's digestive system is most similar to a..**
- A. Chicken
 - B. Rabbit
 - C. Cow
 - D. Human
33. **Which region of the ruminant stomach is considered the “true stomach” because it contains digestive enzymes?**
- A. rumen
 - B. reticulum
 - C. omasum
 - D. abomasum
34. **what is the average wt. of broiler chicken?**
- A. 20 gram
 - B. 30
 - C. 56
 - D. 36
35. **Insurance and liability can range from**
- A. \$10, 000 - \$50, 000
 - B. \$15, 000 - \$50, 000
 - C. \$20, 000 - \$100, 000+
 - D. none of above
36. **What is an exotic animal?**
- A. a wild animal
 - B. an animal that is not native to the area it is raised
 - C. pocket pets
 - D. none of above

1.19 Animal Husbandry

1. **loud noises**
 - A. scare animals
 - B. comfort animals
 - C. make animals pass out
 - D. do nothing to animals
2. **what is a human error?**
 - A. beating animals
 - B. poor judgment
 - C. scaring animal
 - D. pushing animal
3. **Proper animal handling facilities should include**
 - A. small spaces for animals
 - B. poor lighting
 - C. faulty equipment
 - D. safe footing
4. **Animals remember ____ experiences.**
 - A. amazing
 - B. negative
 - C. positive
 - D. mediocre
5. **What is another name for aquatic husbandry**
 - A. Horticulture
 - B. Sericulture
 - C. Pisciculture
 - D. None of the above
6. **Harvesting is a process of**
 - A. separating grains from stalk
 - B. preparing soil for sowing seeds
 - C. collecting ripened crops from the field
 - D. removing undesired plants from the crop field
7. **What are common causes of injuries caused by animals?**
 - A. poor judgement, and improper training
 - B. Knowing exactly what to do
 - C. pushing the animals
 - D. yelling
8. **As Charlie approaches the herd, several animals have wide eyes, flaring nostrils, and tense muscles. These are indications that the animals are**
 - A. happy
 - B. scared
 - C. interested
 - D. lethargic
9. **What piece of equipment makes it easier to vaccinate large animals such as cows?**
 - A. water hose
 - B. tractor
 - C. Squeeze chute
 - D. air horn
10. **What does animal husbandry include?**
 - A. Selective Breeding
 - B. Raising Of Livestock
 - C. All of these
 - D. None of these
11. **Eggs provide us**
 - A. Proteins
 - B. Carbohydrates
 - C. Vitamins
 - D. None of these
12. **Agricultural chemicals used at a livestock operation should not have**
 - A. proper labels
 - B. material safety data sheets
 - C. trained workers
 - D. colored storage containers

13. **Excessive noise** ____ **animals.**
- A. pleases
 - B. scares
 - C. encourages
 - D. confuses
14. **Cultivation of fishes in artificially prepared ponds or water bodies is called as** ____
- A. Aquaculture
 - B. Vermiculture
 - C. Pisciculture
 - D. Agriculture
15. **Layers are fed in food rich with**
- A. Protein
 - B. Vitamin a and k
 - C. Fiber
 - D. Fat
16. **witch is not a sign of suspicion or they are scared**
- A. head raised
 - B. wide eyes
 - C. ear positions
 - D. laid down
17. **Animal Husbandry is the branch of agriculture concerned with animals that are raised for -**
- A. Fibre
 - B. Milk
 - C. Eggs
 - D. All of these
18. **Cattle Husbandry is done for the following purposes:(1) Milk Production (2) Agricultural Work(3) Meat Production (4) Egg Production**
- A. and (2)
 - B. , (3) and (4)
 - C. and (4)
 - D. and (4)
19. **Cattle husbandry is done for the following purposes (i) Milk Production (ii) Agricultural work (iii) Meat production (iv) Egg production**
- A. (i), (ii) and (iii)
 - B. (ii), (iii) and (iv)
 - C. (iii) and (iv)
 - D. (i) and (iv)
20. **Which of the following are exotic breeds? (i) Brawn (ii) Jersey (iii) Brown Swiss (iv) Jersey Swiss**
- A. (i) and (iii)
 - B. (ii) and (iii)
 - C. (i) and (iv)
 - D. (ii) and (iv)
21. **Leghorn is related to**
- A. Apiculture
 - B. Dairy farming
 - C. Pisciculture
 - D. Poultry
22. **Which of the following is a fungus disease causing maximum deaths of poultry birds?**
- A. Pullorum
 - B. Coryza
 - C. Rickets
 - D. Aspergillosis
23. **Why should you use caution when you approach a cow and newborn calf**
- A. if the calf gets scared it could easily die
 - B. calves can get infectious diseases for the first 24 hours
 - C. The cow might become aggressive protecting her newborn calf
 - D. the cow will be less likely to produce milk if she is scared after giving birth

24. **As Suzy vaccinates her dairy herd, the piece of equipment she most likely will not use is a**
- A. headgate
 - B. halter
 - C. squeeze chute
 - D. muzzle
25. **To solve the food problem of the country, which among the following is necessary?**
- A. Increased production and storage of food grains
 - B. Easy access of people to the food grain
 - C. People should have money to purchase the grains
 - D. All of the above
26. **Animals will move away in fright when handlers**
- A. make loud noises
 - B. walk towards the animals
 - C. wear boots and gloves
 - D. turn on the barn lights
27. **Poultry fowl are susceptible to the following pathogens**
- A. Viruses
 - B. Bacteria
 - C. Fungi
 - D. All of the above
28. **The imaginary circle that surrounds an animal or herd, that if penetrated the animals will react in an unpleasant way, is known as?**
- A. flight zone
 - B. My space
 - C. Margin of error
 - D. run zone
29. **Which one of the following is an exotic breed?**
- A. Red sindhi
 - B. Jersey
 - C. Sahiwal
 - D. None of the above
30. **Poultry farming is undertaken to raise domestic fowls for ___ and ___**
- A. Egg and Meat Production
 - B. Meat and Milk Production
 - C. Milk and Egg Production
 - D. none of above
31. **Pasturage is related to**
- A. Cattle
 - B. Fishery
 - C. Apiculture
 - D. Sericulture
32. **WHICH OF THE FOLLOWING CAN FEED A GROWING POPULATION?**
- A. TRADITIONAL METHOD OF CROP PRODUCTION
 - B. MODERN METHOD OF IMPROVED CROP PRODUCTION AND MANAGEMENT
 - C. INDUSTRIAL EVOLUTION
 - D. NONE OF THE ABOVE
33. **What must be placed with stored chemicals?**
- A. Directions to use it
 - B. Safety sheet
 - C. Material Safety Data Sheet
 - D. A cotton ball to absorb leaks
34. **what is the common cause of human injury?**
- A. failure to use protective gear
 - B. being to protective
 - C. being to contentious
 - D. non of the above

35. **The imaginary circle around an animal that causes them to move away when a human enters the circle is the**
- A. stop zone
 - B. flight zone
 - C. headgate
 - D. contact zone
36. **Weeds can be defined as**
- A. Useful plants present in the field
 - B. Undesirable plants present in the field
 - C. Plants that cannot be used at all
 - D. Undesirable insects present in the field.
37. **Poultry farming is undertaken to raise following (i) Egg production (ii) Feather production (iii) Chicken meat (iv) Milk production**
- A. (i) and (iii)
 - B. (i) and (ii)
 - C. (ii) and (iii)
 - D. (iii) and (iv)
38. **FOOD**
- A. HELPS IN GROWTH
 - B. PROTECTS US FROM DIFFERENT DISEASES
 - C. GIVES ENERGY TO TO PERFORM DIFFERENT ACTIVITIES
 - D. ALL OF THE ABOVE
39. **Mullets, prawns, mussels are examples of**
- A. Marine fishes
 - B. Fresh-water fishes
 - C. Finned fishes
 - D. Shell fish
40. **The management and production of fish is called**
- A. Pisciculture
 - B. Apiculture
 - C. Sericulture
 - D. Aquaculture
41. **Facilities must?**
- A. have a safe interment
 - B. not care about employees
 - C. under pay employees
 - D. ignore employees
42. **A common cause of human injury when working with livestock animals is**
- A. certified employees
 - B. wearing PPE
 - C. proper ventilation
 - D. improper training
43. **Apiculture involves**
- A. Rearing and management of bees.
 - B. Rearing and management of fish
 - C. Rearing and management of wild animals
 - D. Rearing and management of hens
44. **chimerical s must be?**
- A. be labeled
 - B. left out
 - C. thrown away
 - D. dumped out
45. **Animal husbandry is the scientific management of (i) animal breeding (ii) culture of animals (iii) animal livestock (iv) rearing of animals**
- A. (i), (ii) and (iii)
 - B. (ii), (iii) and (iv)
 - C. (i), (ii) and (iv)
 - D. (i), (iii) and (iv)

46. **What is the correct definition of a layer?**
A. A mature female chicken that produces eggs.
B. A young female chicken
C. A chicken that is raised for meat consumption
D. All of the above
47. **Domesticated animals of different breed kept in an agricultural land for the benefit of human beings**
A. Livestock
B. Poultry
C. Cattle
D. Animal stock
48. **The place where bees are reared are called**
A. Apiary
B. Apiculturing
C. Bee wax
D. Bee hives
49. **Which of the following are Indian cattle? (i) *Bos indicus* (ii) *Bos domestica* (iii) *Bos bubalis* (iv) *Bos vulgaris***
A. (i) and (iii)
B. (i) and (ii)
C. (ii) and (iii)
D. (iii) and (iv)
50. **Rohu and catla are types of**
A. Freshwater fish
B. Marine water fish
C. Both I and II
D. None of these
51. **animals attack humans when?**
A. fed
B. petted
C. left alone
D. provoked out of fear
52. **Which one of the following fishes is a surface feeder?**
A. Rohus
B. Mrigals
C. Common carps
D. Catlas
53. **The plant roots contain nitrogen fixing bacteria ____**
A. Orange
B. Pea
C. Mango
D. Tomato
54. **To which species does Milch breed and drought animals belongs to?**
A. Buffalo
B. Yak
C. Cow
D. Both b and c
55. **Animal husbandry is the scientific management of**
A. (i) Feeding of animals
B. (ii) Breeding of animals
C. (iii) animal livestock
D. (iv) All of the above
56. **Animals typically do not attack humans unless ____ or out of ____**
A. provoked, fear
B. scared, control
C. shy, fear
D. provoked, love
57. **Signs such as an animal raising its' head, widening its' eyes, flaring its' nostrils, tensing its' muscles, and moving its' ears are signs that an animal is ____**
A. mad
B. thinking deeply

- C. happy
D. scared
58. **As Doug approaches a cow and her newborn calf, what signs does he watch for to indicate the cow is upset**
A. chewing the cud
B. head raised
C. licking the calf
D. relaxed muscles
59. **Which one of the following species of honeybee is an Italian species?**
A. Apis dorsata
B. Apis florea
C. Apis mellifera
D. Apis cerana indica
60. **Birds grown for ____ is called layers.**
A. Meat production
B. Egg production
C. None of these
D. Milk Production
61. **What are the food requirements for cattle?**
A. Both b and d
B. Maintenance requirement
C. None of these
D. Milk producing requirements
62. **What are the consequences for not wearing PPE?**
A. You don't get hurt
B. Injuries occur from slippery floors, dusty conditions, etc
C. Animals will not like you
D. You will rip your pants
63. **Carlos walks through his sheep herd daily to**
A. improve genetics of the flock
B. acclimate the animals to human contact
C. check for weather conditions
D. deworm the animals

1.20 HUMAN AGRICULTURE

1. **Land prepared for agriculture using the slash and burn method**
A. fallow
B. swidden
C. shifting agriculture
D. fertile
2. **which of the following are criticisms of Shifting Agriculture?**
A. encourages deforestation
B. leads to soil erosion and depletes nutrients
C. consumes a lot of land to feed a small number of people
D. All are true
3. **During the ____, people made tools that were smaller and more complex than those made during the Old Stone Age.**
A. ice ages
B. Mesolithic Era
C. Neolithic Era
D. none of above
4. **In the United States many farms are integrated into a large food production industry. This is known as**
A. agribusiness
B. food processing
C. mechanized farming
D. mixed crop and livestock farming

5. **The loss of farmland in rapidly growing urban areas is caused by**
- A. urban sprawl
 - B. soil erosion
 - C. deforestation
 - D. industrialization
6. **How did the ice ages influence human migration?**
- A. It allowed people to cross to the America's on a land bridge
 - B. it was hard to walk on ice so it made migrating difficult
 - C. it had no influence on human migration
 - D. none of above
7. **The European Union refuses to purchase corn and soybeans from the United States because**
- A. the prices are too high.
 - B. they are opposed to GMO crops.
 - C. they import cheaper commodities from our competitors.
 - D. the prices are lower.
8. **Which of the following is a typical practice in growing rice in Asia?**
- A. Flooding the plowed fields with water
 - B. Growing seedlings in a dry nursery
 - C. Transplanting seedlings into the flooded field
 - D. all of the above
9. **Which of the following types of agriculture is used most widely throughout the world?**
- A. slash-and-burn
 - B. plantation
 - C. shifting cultivation
 - D. mediterranean
10. **Commercial agriculture is distinguished from subsistence agriculture by all but which of the following?**
- A. low percentage of farmers in the labor force
 - B. farm size
 - C. heavy use of machinery
 - D. output consumed on the farm
11. **Coffee was domesticated in northern Africa approximately**
- A. 100 years ago
 - B. 300 years ago
 - C. 1200 years ago
 - D. There is no coffee cultivation in Africa
12. **How did humans obtain food before the Agricultural Revolution?**
- A. Hunting animals and following migrating herds
 - B. Hunting and Gathering
 - C. Subsistence harvesting of local plants such as fruits and berries.
 - D. Humans were opportunistic harvesters, taking available vegetables and fruits as they found them.
13. **Which of the following is TRUE of hunter/gatherer societies?**
- A. Found in isolated places
 - B. Comprise 25% of total population
 - C. Live in very large groups
 - D. Rarely, if ever, migrate/move to new locations
14. **Which of the following is NOT true about Mediterranean agriculture**
- A. grow grapes to grow wine
 - B. grow olives for Olive Oil
 - C. include a wide variety of aquaculture
 - D. Are in places such as California, Greece, and Italy

15. **If environmental disaster strikes a region, ____ may ensue.**
- A. famine
 - B. fallow
 - C. horticulture
 - D. monoculture
16. **Which of the following is an example of tertiary economic activity in agribusiness?**
- A. A company that finds buyers for fair trade coffee and facilitates the purchase from Guatemalan coffee farmers for a percent commission
 - B. A factory that buys fruit from local growers and manufactures juice, canned goods, and vitamin supplements
 - C. An economist who informs subsistence farmers in underdeveloped countries of market patterns and which crops will be most profitable at a given time
 - D. A private biotech research company that is genetically engineering a variety of oranges that can be grown in temperate climates
17. **Which of the following is NOT a Disney animated film focusing on dogs?**
- A. Bolt
 - B. Oliver and Company
 - C. Lady and the Tramp
 - D. Meet the Robinsons
18. **What type of agriculture is practiced to produce for sale off the farm?**
- A. Commercial
 - B. Subsistence
 - C. Seed
 - D. Vegetative Planting
19. **Dairy operations locate on the suburban fringe of metropolitan areas because**
- A. it is outside the milkshed.
 - B. city residents don't like to live near farming operations.
 - C. it is a break-of-bulkpoint.
 - D. access to market is greater.
20. **Which of the following was probably the first type of agriculture in human history?**
- A. Seed Agriculture
 - B. Aquaculture
 - C. Pastoral Nomadism
 - D. Hunting and Gathering
21. **has increased its production by 20% per year for the last twenty years.**
- A. Viticulture.
 - B. Chicken production.
 - C. Organic agriculture.
 - D. aquaculture.
22. **Where is aquaculture LEAST likely to be used?**
- A. Afghanistan
 - B. Israel
 - C. scotland
 - D. United States
23. **The goal of commercial agriculture is**
- A. Profit maximization
 - B. Genetic diversity of seeds
 - C. Establishment of seed banks throughout the world
 - D. Sustainable farming practices
24. **In which ways can genetic engineering improve crops**
- A. Make them pest or drought resistant
 - B. Make them more nutritious
 - C. Make them larger
 - D. All answers are correct

25. **Pastoral nomads do not typically herd**
- A. cattle.
 - B. llamas.
 - C. sheep.
 - D. goats.
26. **What is the main aim of commercial farming?**
- A. Sell everything the farm produces
 - B. Feed the farmer's family
 - C. Reduce the number of outputs
 - D. Protect the local environment
27. **Growing crops and raising live stock to meet family needs is called**
- A. Commercial farming
 - B. Mixed farming
 - C. Subsistence farming
 - D. none of above
28. **All of the following are forms of commercial agriculture EXCEPT**
- A. pastoral nomadism
 - B. cattle ranching
 - C. specialized fruit production
 - D. grain farming
29. **Which of the following is a characteristic of a dairy farm outside of a milkshed?**
- A. produces primarily fresh milk
 - B. has a focus on processed milk; such as butter or cheese
 - C. needs very few refrigerated trucks
 - D. none of the above are true
30. **Mesopotamia means**
- A. land of many people
 - B. land between the rivers
 - C. land of nomads
 - D. land of animals
31. **What is a land bridge?**
- A. a strip of land connecting two continents
 - B. an underwater bridge
 - C. land that is long
 - D. none of above
32. **The Green Revolution resulted in an increase in production of cereal grains in the developing world, providing "cheap" calories for growing populations. By roughly what percent did cereal grain production increase throughout the course of the green revolution?**
- A. 200%
 - B. 100%
 - C. 25%
 - D. 400%
33. **What area of the world first incorporated domestication of both plants and animals?**
- A. Ethiopian Highlands.
 - B. Southwest Asia.
 - C. Southeast Asia.
 - D. Middle America.
34. **The best way to block Asian carp from moving into the Great Lakes from the Illinois River would be the closing of locks and dams in and near Chicago; however, these waterways are not being closed because**
- A. as major transportation links for the region, they are important for the economy of St. Louis
 - B. too many Asian carp are already clogging the locks and dams and cannot be removed
 - C. as major transportation links for the region, they are important for Chicago's economy

- D. the economies of neighboring states depend on the Chicago-area locks and dams
35. **Potatoes were domesticated in**
- A. Southwest Asia.
 - B. Ethiopia.
 - C. northern China.
 - D. Latin America.
36. **Which of the following is not true of Pastoral Nomadism**
- A. size of the herd measures their power
 - B. primarily in arid climates
 - C. practices a debt for nature swap
 - D. all are true
37. **Farmers in Asia primarily practice ____**
- A. pastoral nomadism
 - B. intensive subsistence
 - C. shifting cultivation
 - D. hunting and gathering
38. **What type of agriculture requires a lot of labor and focuses on a small plot of land?**
- A. Extensive agriculture
 - B. Intensive subsistence agriculture
 - C. Pastoralism
 - D. Commercial agriculture
39. **Which country is most likely to feature Swidden agriculture?**
- A. Congo
 - B. China
 - C. Russia
 - D. Canada
40. **The most important reason why most farmers in northeast China grow crops other than wet rice is**
- A. tradition
 - B. climate
 - C. soil
 - D. harvesting wet rice requires expensive machinery
41. **What is an example of a subsistence crop?**
- A. Corn
 - B. Honey
 - C. Tobacco
 - D. Sugar
42. **Which of the following includes the world's earliest centers of plant domestication?**
- A. Northeast Asia, Eastern Europe, South Africa
 - B. Russia, China, Latin America
 - C. British Isles, Scandinavia, United States
 - D. Southeast Asia, Mesoamerica, Middle East
43. **Farming methods that preserve long-term productivity of land and minimize pollution, typically by rotating soil-restoring crops with cash crops and reducing inputs of fertilizer and pesticides**
- A. Hunting Gathering
 - B. Subsistence Farming
 - C. Commercial Farming
 - D. Sustainable Agriculture
44. **Which of the following was NOT a positive result of the Green Revolution?**
- A. Increased crop yields from industrial fertilizers
 - B. global expansion of organic and sustainable agriculture

- C. A global increase in food security due to reduced crop failure
- D. Increased crop yields from hybridized seed varieties
45. **Subsistence agriculture is most common in which of the following regions?**
- A. Great Plains of the United States
- B. Pampas of Argentina
- C. Amazon Basin
- D. The Outback of Australia
46. **The United Nation defines food security as**
- A. physical, social, and economic access at all times to safe and nutritious food
- B. the ability of a country to provide food for its population in times of famine or drought
- C. the ability of a country to safeguard its food stores from hostile nations during war and political instability
- D. the environmental stability of the food chain
47. **The number of farmers per unit area of arable land.**
- A. arithmetic population density
- B. physiological population density
- C. old-age dependency ratio
- D. agricultural population density
48. **Which of the following is the leading cause of hunger in the world in 2015?**
- A. Crop failure
- B. Overpopulation
- C. War and political instability
- D. Global Warming
49. **With ____ more certain, people could focus on activities other than finding food.**
- A. survival
- B. towns
- C. elements
- D. fire
50. **Dependence on a single agricultural commodity.**
- A. Monoculture
- B. Intensive Agriculture
- C. Extensive Agriculture
- D. Cash Cropping
51. **Which form of commercial agriculture is found primarily in developing countries?**
- A. plantation agriculture
- B. mixed farming
- C. dairy farming
- D. truck farming
52. **This area did not contain an agricultural hearth.**
- A. Europe.
- B. Asia.
- C. Africa.
- D. South America.
53. **In the U.S., many farms are integrated into a large food production industry. This is known as:**
- A. commercial farming.
- B. agribusiness.
- C. food processing.
- D. mechanized farming.
54. **Afghanistan is important to the world drug trade primarily because**
- A. it produces about 90 percent of the world's opium
- B. of the inability to grow maize
- C. of the proximity of the Russian market for illicit drugs
- D. of the desire of local farmers to fund terrorist organizations

55. **In what period of agriculture did pollinators begin to decline?**
- A. Beginning of agriculture.
 - B. Traditional agriculture
 - C. Industrial agriculture
 - D. Green revolution
56. **An agricultural activity involving the raising of livestock, most commonly cows and goats, for dairy products such as milk, cheese, and butter.**
- A. Dairying
 - B. Milk Farming
 - C. Cheesing
 - D. Milkshed
57. **Feedlots are an example of which kind of farming?**
- A. intensive farming
 - B. extensive farming
 - C. subsistence farming
 - D. shifting cultivation
58. **Which type of agriculture is both labor-intensive & capital-intensive?**
- A. pastoral nomadism
 - B. slash and burn agriculture
 - C. dairying
 - D. inter tillage
59. **What materials were first used by Neolithic people to make clothing?**
- A. plant fibers
 - B. wool
 - C. animal skins
 - D. all of the above
60. **An agricultural activity associated with the raising of domesticated animals, such as cattle, horses, sheep, and goats.**
- A. Animal Husbandry
 - B. Monoculture
 - C. Horticulture
 - D. Shifting Cultivation
61. **Agriculture is best defined as**
- A. the hunting and gathering
 - B. the altering genetic material of plants
 - C. the cultivation of plants/domesticating animals
 - D. using technology to increase production
62. **Which is not a characteristic of shifting cultivation?**
- A. Land is cleared by slashing the vegetation
 - B. Debris is burned to provide the soil with nutrients
 - C. A new site is designated every few years
 - D. All of the above are characteristics
63. **What is sustainability?**
- A. Meeting the needs of the community NOW and planning for the needs of the community in the FUTURE.
 - B. Meeting the needs of the community NOW only.
 - C. Meeting the needs of the community in the FUTURE only.
 - D. Both the positive and negative outcome of a decision.
64. **Why do hunter/gatherer societies migrate?**
- A. New entertainment options
 - B. War
 - C. Follow migration of plants/animals
 - D. Signs from the heavens

65. **MDCs have a low number of farmers resulting in**
- A. High yields despite the low numbers because the farmers use technology and modern techniques to maximize harvests.
 - B. High yields because the low number of farmers produce more than a high number of farmers.
 - C. Lower yields because there are less people to work on agricultural lands.
 - D. Lower yield because of desertification and soil erosion.
66. **Which statement correctly describes hunting and gathering?**
- A. it is a form of nomadism that disappeared in the late 1900s after the fall of the Soviet Union
 - B. This form of subsistence disappeared in the mid-1900s owing to industrialization and modernized agriculture
 - C. Hunter gatherers cannot live for long in groups of less than 100 people owing to the necessary division of labor
 - D. This form of subsistence is still practiced despite the modernization of agriculture in some areas
67. **Seed agriculture probably reached Europe from**
- A. northern China
 - B. Ethiopia
 - C. Southwest Asia
 - D. Southeast Asia
68. **What type of agriculture is practiced to feed the farmer and the farmer's family?**
- A. Commercial
 - B. Substantive
 - C. Communal
 - D. Subsistence
69. **How did farming allow people to create permanent settlements?**
- A. People needed to stay in one place to farm crops
 - B. because they were raising animals
 - C. it did not allow people to create permanent settlements.
 - D. none of above
70. **The process of taming an animal and keeping it as a pet or on a farm or cultivating a plant for food**
- A. Cultivation
 - B. Domestication
 - C. Desertification
 - D. Genetic Modification
71. **According to Carl Sauer, why did vegetative planting first start in Southeast Asia?**
- A. The predictable annual flooding of rivers provided needed irrigation
 - B. The humid continental climate was ideal for experimentation.
 - C. The extensive river valleys provided excellent soil for cultivation.
 - D. The region's high biodiversity allowed people to become more sedentary, which naturally led to experimentation with plants.
72. **Ranching is practiced in the climate region most similar to that of which other type of agriculture?**
- A. dairying
 - B. grain
 - C. pastoral nomadism
 - D. shifting cultivation
73. **How many pounds are in a bushel of corn?**
- A. 1 pound
 - B. 20 pounds

- C. 56 pounds
D. 100 pounds
74. **Mixing crops and livestock allows farmers to**
A. generate 90 percent of their income from the sale of livestock
B. doublecrop
C. create a system where crops provide food for livestock and the livestock provide manure for crop fertilization
D. circumvent market forces that determine the prices of livestock and crops
75. **Which of the following areas of the world most likely leads the other areas listed below in the production of wheat?**
A. Central Brazil
B. Interior Australia
C. Eastern Europe
D. Central Africa
76. **According to the map of major world fishing regions, the Antarctic section of the Pacific Ocean annually contributes**
A. less than 1 million tons of aquatic catch
B. 5 to 10 million tons of aquatic catch
C. 1 to 5 million tons of aquatic catch
D. more than 20 million tons of aquatic catch
77. **Farmers in LDCs choose to grow drug crops for export primarily because of**
A. their market value in MDCs
B. their inability to grow maize
C. their disdain for the freedoms enjoyed by developed countries
D. their desire to fund terrorist organizations
78. **In response to the Earth's changing climate and geography, people began to**
A. stay in one place
B. go hunting together
C. migrate
D. none of above
79. **Which is not a form of subsistence agriculture?**
A. Mediterranean
B. Shifting cultivation
C. Pastoral nomadism
D. intensive wet rice
80. **Farming and raising livestock for profit is called**
A. Subsistence farming
B. Commercial farming
C. Arable farming
D. none of above
81. **The Tuareg people of the Sahara and their animals seasonally migrate to the higher lands in the summer and the valleys in the winter. This is an example of:**
A. pastoral nomadism
B. livestock ranching
C. manipulated migration
D. transhumance
82. **The number of farms in the United States declined from about 6 million in 1940 to ____ in 1980.**
A. 2 million
B. 10 million
C. 1 million
D. 20,000
83. **During the ____, huge sheets of ice were formed from ocean water, so levels were lower than they are now.**

- A. ice ages
B. Mesolithic Era
C. Stone age
D. none of above
84. **Pigs were domesticated in**
A. South America.
B. Ethiopia.
C. northern China.
D. Southwest Asia.
85. **Which is the least developed region among the following?**
A. Eastern Europe
B. Southwest Asia
C. Western and Central Europe
D. East Asia
86. **After corn, the most important crop in the U.S. mixed crop and livestock region is:**
A. wheat.
B. barley.
C. soybeans.
D. sugar beets.
87. **Farming that requires lots of labor and/or capital investment is:**
A. intensive agriculture
B. extensive agriculture
C. subsistence agriculture
D. diffusion agriculture
88. **The area surrounding a city from which milk is supplied.**
A. Milkshed
B. Milk Shack
C. Cow Juice Dorm
D. Milk-mobile
89. **The adoption of agriculture by neolithic societies resulted in ____**
A. development of less-hierarchical societies
B. increased gender equality
C. cultures adopting a more settled lifestyle
D. an increase in nomadic hunting
90. **Truck Farming is a term that derives from the Middle-English word truck, meaning**
A. "mobility" or "movement"
B. "subsiding" as in "subsistence agriculture"
C. "bartering" or "exchange of commodities"
D. "horse" or "horse-drawn"
91. **The set of economic and political relationships that organize food production for commercial purposes.**
A. Agribusiness
B. Commercial agriculture
C. Eco-cultivation
D. Corporate geopolitical transactions
92. **____ model is used by geographers to explain the importance of proximity to the market in the choice of crops to the commercial farm**
A. von Thunen's
B. Iqbel's
C. McKinley's
D. von Helsing's
93. **The predominant form of commercial agriculture in the U.S. Southeast is:**
A. mixed crop and livestock.
B. dairy farming.
C. commercial gardening.
D. plantation farming.

94. **Farmers in MDCs grow crops and raise animals to sell directly to ____**
- A. Consumers
 - B. Markets
 - C. Stores
 - D. Food processing companies
95. **Genetic engineering has been used to produce**
- A. medicines.
 - B. food animals.
 - C. improved crops.
 - D. all of these.
96. **In which part of the world were seed crops first domesticated?**
- A. India
 - B. Southwest Asia
 - C. Northern Europe
 - D. Southern Europe
97. **Where did agriculture get started?**
- A. In multiple hearths
 - B. In the Middle East
 - C. In Africa
 - D. In South Asia
98. **Specifically, how do farmers clear the land for shifting cultivation?**
- A. Farmers use machines to cut the trees down and clear the debris. The debris is then burned and the ash is used to fertilize the next rotation of crops.
 - B. Farmers slash the vegetation and burn the debris
 - C. Farmers rotate crops every year to make sure that the land remains productive and does not go fallow.
 - D. Farmers use modern technology and advanced farming techniques to maximize production on their farms.
99. **Pastoral nomadism is:**
- A. supported by agribusiness.
 - B. capital-intensive.
 - C. centered around cash crop production.
 - D. found mostly in less-developed countries.
100. **When did agriculture begin?**
- A. 100 years ago.
 - B. 2000 years ago
 - C. 10000 years ago
 - D. 25000 years ago
101. **Which of the following is not an example of Mediterranean agriculture?**
- A. Oranges in Florida
 - B. Raisins in Greece
 - C. Olives in Italy
 - D. Grapes in Southwest Australia
102. **What is domestication of a plant or animal?**
- A. teaching animals how to plant
 - B. letting plants grow wild and animals do whatever they want
 - C. changing a plant or animal to make it more useful to humans
 - D. none of above
103. **Some people learned to ____ animals in order to have meat and milk without following wild herds.**
- A. domesticate
 - B. survival
 - C. elements
 - D. agriculture
104. **The percentage of the labor force in the United States that works directly in agriculture is**
- A. 2-5%.

- B. 7-9%.
- C. 10-15%
- D. 17-25%
105. **Technology essential for intensive subsistence agriculture is**
- A. irrigation.
- B. biotechnology.
- C. advancements in pesticide research.
- D. precision agriculture techniques.
106. **Which of the following is an important agricultural hearth?**
- A. Ethiopia
- B. North America
- C. Southwest Asia
- D. All Answers are true
107. **Which type of agriculture is found primarily in less developed countries?**
- A. plantation
- B. truck farming
- C. commercial gardening
- D. mechanized
108. **The two most important crops grown in the Mediterranean region are**
- A. dates and lemons
- B. almonds and grapes
- C. grapes and olives.
- D. olives and tomatoes.
109. **If there are few houses which are spread out, what is the pattern called?**
- A. Linear
- B. Nucleated
- C. Dispersed
- D. Don't know
110. **Which of the following is NOT a consequence of the global industrialization of agriculture initiated by the Green Revolution?**
- A. An increase in energy investment of crops
- B. Occasional, unpredictable, massive crop failures
- C. A dependence on fossil fuels to produce food and sustain the human population
- D. Increase in pollution of watersheds worldwide by leaching of chemical fertilizers
111. **Agriculture is associated with**
- A. primary sector of the economy.
- B. secondary sector of the economy.
- C. tertiary sector of the economy.
- D. quaternary sector of the economy.
112. **What is the purpose of crop rotation?**
- A. maintaining fresh products for market
- B. maintaining price supports
- C. maintaining fertility of fields
- D. reducing transportation costs
113. **All of the following crops are products of Mediterranean agriculture EXCEPT**
- A. grapes
- B. dates
- C. figs
- D. apples
114. **The primary differences between agriculture practices in the world are between those of what two types of regions/countries?**
- A. Africa and Asia
- B. MDC and LDC
- C. Eastern and Western Hemispheres
- D. Northern and Southern Hemisphere

115. **The largest effect of increased mechanization in modern agriculture has been ____**
- A. reduced need for farm laborers
 - B. a diversification of agricultural crops
 - C. a lack of reliance on cash crops
 - D. a division of arable land among more individual farmers
116. **Ultimately, agricultural production is classified as high or low according to its ____**
- A. yield
 - B. subsistence
 - C. tillage
 - D. swidden
117. **Which US corporation is most responsible for the rise in GMO foods and increased pesticide use?**
- A. Kellogg
 - B. Monsanto
 - C. Frito-Lays
 - D. General Mills
118. **Pastoral nomadism is most commonly found in which climate region?**
- A. dry
 - B. warm mid-latitude
 - C. cold mid-latitude
 - D. polar
119. **Which country is most likely to feature Pastoral Nomads?**
- A. South Korea
 - B. Iran
 - C. Argentina
 - D. Ukraine
120. **Asian agriculture is characterized by shortages of all but which but which of the following?**
- A. funds and land
 - B. labor
 - C. land
 - D. funds
121. **Opponents of GMOs are afraid that the GMOs:**
- A. will hinder global trade
 - B. make plants more resistant to disease
 - C. may cause irreversible changes in humans
 - D. make pants resistant to drought
122. **) The direction and frequency of hunter-gatherer migration depended on**
- A. the movement of game and the seasonal growth of plants.
 - B. the arrival of imperial armies and other invading forces.
 - C. each group's size and the ability to run over long distances.
 - D. mathematical processes.
123. **Compared to shifting cultivation, intensive subsistence agriculture is characterized by which of the following?**
- A. lower population densities
 - B. greater use of animal power
 - C. more diversified cropping
 - D. greater use of land in rainforests
124. **Commercial agriculture characterized by integration of different steps in the food-processing industry, usually through ownership by large corporations.**
- A. Cash cropping
 - B. Terraced Farming
 - C. Sustainability
 - D. Agribusiness

125. **Which of the following crops is produced in large amounts in the United States?**
- A. cassava
 - B. coffee
 - C. rice
 - D. wheat
126. **Derwent Whittlesey's map of agricultural regions helped to show a relationship between agricultural regions and**
- A. type of crops
 - B. climate
 - C. labor distribution
 - D. level of development
127. **When a country experiences food insecurity, it**
- A. has introduced policies that prevent restaurants from operating in a free market
 - B. has eliminated the availability of periodic markets
 - C. does not have physical, social, and economic access to safe and nutritious food.
 - D. Does not have access to grocery stores
128. **Are there hunters and gatherers in the world today?**
- A. Sentinelese from the Andaman Islands
 - B. Tribal nomads from Papua New Guinea
 - C. Aborigines from Central America
 - D. Sudanese tribes in South Africa
129. **Where would animal grazing take place in the von Thunen model?**
- A. First ring
 - B. Second ring
 - C. Third ring
 - D. Fourth ring
130. **Which pest control technique uses beneficial insects to control pests?**
- A. Biological
 - B. Mechanical
 - C. Chemical
 - D. Cultural
131. **Which of the following have aided commercial farmers in MDCs?**
- A. scientific advances and the reduction in the need for electronics
 - B. ancient irrigation projects that can be refitted for modern farming
 - C. transportation improvements, scientific advances, and electronics
 - D. climate change, scientific advances, and transportation improvements
132. **The time when human beings first domesticated plants and animals and no longer relied entirely on hunting and gathering**
- A. Green Revolution
 - B. Gene Revolution
 - C. Neolithic Revolution
 - D. Second Agricultural Revolution
133. **How long did it take for Stone Age people to migrate AROUND THE WORLD?**
- A. 10 years
 - B. 90,000 years
 - C. Hundreds of thousands of years
 - D. a million years
134. **The production of food primarily for consumption by the farmer's family.**
- A. Commercial agriculture
 - B. vegetative agriculture
 - C. Subsistence agriculture
 - D. seed agriculture

135. **One type of agriculture is not like the other.**
- A. Mediterranean
 - B. ranching
 - C. livestock
 - D. pastoral nomadism
136. **Where did Agriculture originate?**
- A. Africa
 - B. China
 - C. Multiple hearths
 - D. Fertile Crescent
137. **Which of the following is the best example of primary economic activity?**
- A. A lumber mill in Port Angeles, WA that manufactures lumber, wood chips and various timber products from locally fallen trees
 - B. A freelance marketer who connects logging companies with manufacturers interested in purchasing raw timber to produce lumber and a wide range of paper products
 - C. A land grant research college in Georgia that has developed an experimental tree farm in an attempt to study sustainable timber harvesting
 - D. A logger in the Pacific Northwest who risks his or her life falling trees for \$25,000 a year before taxes
138. **Which of the following was NOT a location of independent plant and animal domestication?**
- A. Africa
 - B. China
 - C. Peru
 - D. California
139. **Which of the following is NOT an agricultural hearth?**
- A. East Asia's Yangtze River Valley
 - B. Latin America's Andean Mountains
 - C. Latin America's Mexico's highlands
 - D. Africa's South Africa
140. **The first form of agriculture was**
- A. seed agriculture
 - B. vegetative planting
 - C. domesticating cattle
 - D. plantation agriculture
141. **Which type of commercial agriculture is primarily found in LDCs?**
- A. Mediterranean
 - B. plantation
 - C. truck farming
 - D. commercial gardening and fruit farming
142. **What climate is associated with Pastoral Nomadism?**
- A. humid- low latitude
 - B. arid/semi arid
 - C. warm mid-latitude
 - D. cold mid-latitude
143. **Which of the following is the most common form of commercial agriculture in Europe?**
- A. mixed crop and livestock farming
 - B. dairy farming
 - C. grain farming
 - D. livestock ranching
144. **The Industrial Revolution transformed Western agriculture**
- A. through mechanization and the creation of new markets.
 - B. with biotechnology.
 - C. through plant hybridization and biotechnology

- D. by introducing slaves into the workforce
145. **Herders who seasonally move their animals between mountain pastures and low-land valleys practice**
- A. transhumance.
 - B. seasonal variation.
 - C. livestock ranching.
 - D. extensive subsistence agriculture.
146. **Ranching has declined in the southwestern U.S. primarily because:**
- A. crops yield more income per area.
 - B. the predominant breed of cattle has changed.
 - C. long-distance cattle drives are no longer practical.
 - D. of export tariffs on beef.
147. **Which sector of the economy tends to have the highest salaries on average?**
- A. Primary
 - B. Secondary
 - C. Tertiary
 - D. Quadrinary
148. **Which of the following crops is grown on the sides of terraced hills to allow flowing water to run over the plants?**
- A. Rice
 - B. Taro
 - C. Soybeans
 - D. Millet
149. **Which of the following is NOT a negative side effect of modern agricultural techniques versus traditional techniques?**
- A. Increased use of fossil fuels
 - B. Increased crop yields
 - C. Increased use of fertilizers
 - D. Increased use of pesticides
150. **Which economic activity includes the service sector of the economy?**
- A. Primary Activities
 - B. Secondary Activities
 - C. Tertiary Activities
 - D. Quaternary Activities
151. **Ester Boserup theorized that when population increased in a subsistence agriculturally-based community the level of technology and labor efforts must**
- A. decrease due to the high cost of machinery.
 - B. increase by sending students to technical schools.
 - C. increase by purchasing new machinery from More Developed Countries (MDCs).
 - D. increase to meet the demands of increased population pressures.
152. **The first people to domesticate lentils and olives were in**
- A. northern China.
 - B. Ethiopia.
 - C. Southwest Asia.
 - D. South America.
153. **___ can occur when a person does not consume enough vitamins, minerals, or calories.**
- A. famine
 - B. scurvy
 - C. essential amino acids
 - D. malnutrition
154. **Production of agricultural products destined primarily for direct consumption by the producer rather than for market is called**
- A. sedentary cultivation
 - B. plantation farming

- C. subsistence agriculture
D. hunting and gathering
155. **In arid climates, like Southern California and the Middle East, ____ can cause the soil to become salty and infertile.**
A. erosion
B. topsoil loss
C. salinization
D. droughts
156. **Subsistence agriculture in which farmers must expend a relative large amount of effort to produce the maximum feasible yield from a pared of land.**
A. Intensive Agriculture
B. Extensive Agriculture
C. Labor Agriculture
D. Monoculture
157. **The most widely produced grains in the world are**
A. rice, maize, and oats.
B. wheat, rice, and maize.
C. wheat, corn and oats
D. rice, wheat, and barley.
158. **Which would NOT be a reason to use GM crops?**
A. Using GM crops can increase crop yields.
B. Using GM crops can reduce use of insecticide sprays.
C. Using GM crops may be able to feed more people faster.
D. Using GM crops can increase pesticide resistance in pests.
159. **Cutting flat steps or terraces into the side of a mountain to have more land to cultivate is known as**
A. tribute
B. quechua
C. terrace farming
D. chinampas farming
160. **The ____ was the period between 1950 and 1970 when increases in crop yields resulted from the use of new crop varieties and the application of modern agriculture techniques.**
A. drought
B. persistent
C. Green Revolution
D. Industrial Revolution
161. **How might GMOs help save pollinators?**
A. They make huge profits for corporations.
B. They reduce pesticide use.
C. They increase herbicide use.
D. People might be allergic to them.
162. **About what year did the first Agricultural Revolution occur?**
A. 3000 BCE
B. 8000 BCE
C. 1000 CE
D. 20000 BCE
163. **In the winter wheat area, the crop is planted in:**
A. autumn and harvested in summer.
B. winter and harvested in spring.
C. winter and harvested in autumn.
D. spring and harvested in summer.
164. **A major concern for American Farmers is the depletion of**
A. aquifers
B. pesticides
C. animal waste
D. monoculture

165. **If houses are far apart from each other in a rural village, it would be classified as a:**
- A. dispersed rural settlement
 - B. clustered rural settlement
 - C. agglomeration
 - D. plantation settlement
166. **According to the Von Thunen Model which form of Agriculture would be located closest to the city?**
- A. Dairy
 - B. Lumber
 - C. 3 fields
 - D. Ranching
167. **What is the name of the wise baboon from 'The Lion King'?**
- A. raffiki
 - B. simba
 - C. timon
 - D. pumbaa
168. **Both the growing of food or feed and the raising of livestock are considered what type of economic activity?**
- A. Primary
 - B. Secondary
 - C. Tertiary
 - D. Quinary
169. **Why did early humans migrate?**
- A. they wanted a change of scenery
 - B. the climate changed, and they needed to find new food sources
 - C. they wanted to meet new tribes
 - D. they wanted to learn how to make new tools
170. **A chemical intended to kill insects and other organisms that damage crops.**
- A. Herbicide
 - B. Pesticide
 - C. GMO
 - D. Fertilizer
171. **Where is shifting cultivation found?**
- A. Tropical regions with relatively high temperatures and abundant rainfall.
 - B. Developed countries with a low number of farmers.
 - C. Less developed countries with a heavy reliance on subsistence agriculture.
 - D. Societies that rely on hunting and gathering.
172. **What materials did early humans use to build more permanent structures?**
- A. wood, stone, clay, or other materials like bones
 - B. wood, straw, leaves, or other materials like plant fiber
 - C. rocks, grass, mud
 - D. none of above
173. **When a country does not have physical, social, and economic access to safe and nutritious food, they experience**
- A. food insecurity.
 - B. food security.
 - C. food inequalities.
 - D. food deficits.
174. **Why type of agriculture is found primarily in LDCs?**
- A. Truck farming
 - B. Commercial gardening and fruit farming
 - C. Livestock ranching
 - D. Plantation

175. **The agricultural revolution provided societies with**
- A. Protection
 - B. Food security
 - C. An economy
 - D. A class system
176. **Farming varies around the world because of — across space.**
- A. cultural and environmental factors
 - B. farmers' personal preference and environmental factors
 - C. weather and climate
 - D. climate change
177. **Which of the following is NOT true of MDC's**
- A. low percentage of farmers in the labor force
 - B. heavy use of machinery because of Commercial farming
 - C. Amount of land dedicated to farming has decreased in the last century
 - D. most food produced on farms is consumed elsewhere
178. **What Country would be most likely to feature Terrace Agriculture?**
- A. Brazil
 - B. China
 - C. Egypt
 - D. Germany
179. **What has happened to the number of farmers in the US during the 20th century?**
- A. The number of farmers has declined because of lack of opportunities to make a profit and the pull of higher paying jobs in the city.
 - B. The number of farmers has increased to meet the rising demand of food as the population grows.
 - C. The number of farmers has increased to meet the growing demand for food as high powered economies demand more and more protein and foods from exotic locations.
 - D. The number of farmers has remained the same because the increase in the demand for food has been met with improvements in technology and advanced farming techniques.
180. **Growing only enough food to feed your family is an example of**
- A. vegetative planting.
 - B. market gardening.
 - C. extensivecommercial agriculture.
 - D. subsistence agriculture.
181. **What is an economic difficulty faced by dairy farmers?**
- A. It is labor intensive.
 - B. There are too many regulations.
 - C. Cows need to be moved to different grazing regions based on seasons.
 - D. Loss of farmland to urban sprawl.
182. **Which statement explains why pastoral nomads move from place to place with their cattle?**
- A. It has proven to be an effective method of subsistence agriculture in the semi-arid region in which they live.
 - B. Green Revolution technologies have made this practice possible since the mid-20th century.
 - C. Recent improvements in refrigeration and transportation have greatly expanded how far milk can be delivered.
 - D. They have been contracted to raise these animals for a multinational corporation.

183. **What did people use to make tools in the Mesolithic Era?**
- A. branches
 - B. bone and stone
 - C. animal hide
 - D. none of above
184. **Lima beans were domesticated in**
- A. Southwest Asia.
 - B. Ethiopia.
 - C. northern China.
 - D. Latin America.
185. **According to the von Thunen model, the first ring is used for**
- A. dairy.
 - B. forestry.
 - C. grain farming.
 - D. corn
186. **The world's population began to grow about 8, 000 years ago as a result of?**
- A. Industrialization
 - B. The cultivation of crops
 - C. Migration
 - D. Medical advances
187. **According to the "Change in Undernourishment" chart, there has been a recent decrease in undernourishment in**
- A. South Asia
 - B. East Asia
 - C. Sub-Saharan Africa
 - D. North Africa
188. **Which of these is a physical factor affecting farming?**
- A. Amount of rainfall
 - B. Amount of machinery
 - C. Availability of workers
 - D. Amount of capital
189. **The two most widely used and distributed Genetically Modified Organisms (GMO) crops are**
- A. corn and wheat.
 - B. wheat and millet.
 - C. soybeans and wheat.
 - D. soybeans and corn.
190. **Which is an application of genetic engineering?**
- A. destroying all bacteria
 - B. creating synthetic insulin
 - C. producing cells from nonliving material
 - D. preventing weeds from spreading to farmland
191. **Which of the following pairs of agricultural types occupies the largest percentage of the world's total land area?**
- A. Cattle ranching and Mediterranean agriculture
 - B. Plantation agriculture and specialized horticulture
 - C. Shifting cultivation and nomadic herding
 - D. Intensive rice cultivation and subsistence farming
192. **During which decade did the Green Revolution result in exponential increases in food production (particularly that of cereal grains) worldwide?**
- A. 1930's
 - B. 1960's
 - C. 2010
 - D. 1890's

193. **Which of the following types of agriculture is commonly practiced in the United States?**
- A. drug crop farming
 - B. pastoral nomadism
 - C. dairying
 - D. slash and burn
194. **The major problem with the world's food supply is that**
- A. there isn't enough food for everyone
 - B. the food is not properly distributed
 - C. people are unwilling to eat certain types of food
 - D. food production is decreasing
195. **The modern definition of agriculture includes**
- A. animal husbandry and shifting cultivation.
 - B. vegetative and seed planting.
 - C. multiple hearths of origin.
 - D. the deliberate domestication of plants and animals.
196. **in the winter wheat area of the U.S., the crop is planted in**
- A. autumn and harvested in summer
 - B. winter and harvested in autumn
 - C. spring and harvested in summer
 - D. spring and harvested in autumn
197. **Which sector of the economy has the most workers in the USA today?**
- A. Sector 1
 - B. Sector 2
 - C. Sector 3
 - D. Sector 4
198. **Which percentage of the US population are full-time farmers?**
- A. 2%
 - B. <1%
 - C. 5%
 - D. >5%
199. **Commercial farmers often produce more yield than can be sold. What basic economic principle affects prices when crops are overproduced?**
- A. supply and demand
 - B. von Thunen's location theory
 - C. costs and profits
 - D. buy low, sell high
200. **Which of the following is an Extraction industry?**
- A. Fishing
 - B. Hunting
 - C. Foraging
 - D. Oil
201. **Foods that are mostly products or organisms that have their genes altered in a laboratory for specific purposes, such as disease resistant, increased productivity, or nutrients value.**
- A. Altered Crops
 - B. Cash Cropping
 - C. Genetically Modified Organisms
 - D. Organic Agriculture
202. **If there are a lot of houses which are very close together, what is the pattern called?**
- A. Linear
 - B. Nucleated
 - C. Dispersed
 - D. Don't know

203. **Which concept is NOT related to GMO?**
- A. Using science to create the "Perfect" food
 - B. Using high intensity pesticides to kill any bugs that could damage the food
 - C. Utilizing local farmers to sell crops to the communities that they live close to
 - D. Utilizing big corporations to help sell and spread GMO products all over the USA
204. **To increase crop yield, rice farmers in China commonly practice:**
- A. double cropping.
 - B. transhumance.
 - C. threshing.
 - D. shifting cultivation.
205. **If houses are in a row, what is the pattern called?**
- A. Linear
 - B. Nucleated
 - C. Dispersed
 - D. Don't know
206. **One of the negative effects of GMO use is**
- A. increased exposure to pesticides.
 - B. an increase in crop production.
 - C. depletion of soil nutrients.
 - D. increase risk of birth defects from GMOs.
207. **What is fallow soil?**
- A. Soil that is left uncultivated so that it can rest and regenerate nutrients.
 - B. Soil that has been depleted on nutrients.
 - C. The process of desertification.
 - D. Soil that has been cleared and fertilized by a process called shifting agriculture.
208. **Which sector of the economy is based on providing services?**
- A. primary
 - B. secondary
 - C. tertiary
 - D. quaternary
209. **A ___ is a strip of land that connects two continents.**
- A. ice age
 - B. a connector
 - C. land bridge
 - D. none of above
210. **The building of the Erie Canal in the 1820s to connect New York with the mid-west was paid for by the state of New York. It is an example of**
- A. a subsidy
 - B. a supply chain
 - C. vertical integration
 - D. agribusiness
211. **The seasonal migration of livestock between mountains and lowland pastures is:**
- A. pastoral nomadism.
 - B. shifting cultivation.
 - C. transhumance.
 - D. livestock ranching.
212. **What event helped geographers and other scientist determine when the first Agricultural Revolution occurred?**
- A. The population of the world began to grow rapidly.
 - B. There are farming artifacts left behind in early agricultural settlements.
 - C. Written records.
 - D. Cave paintings depict scenes of early agriculture.

213. **The process of changing the genetic material of a crop or organism so as to produce a desired characteristic**
- A. Genetic Modification
 - B. Domestication
 - C. Cultivation
 - D. Commercial Farming
214. **A major practice of sustainable agriculture is**
- A. as increased "green revolution" use of chemicals
 - B. the lack of integration of crops and livestock
 - C. use of pesticide resistant seed
 - D. limited use of chemicals
215. **Which of the following is not commercial farming?**
- A. Pastoral nomadism
 - B. Agribusiness
 - C. Mediterranean
 - D. Livestock and Cattle Ranching
216. **Slash-and-Burn is an example of which agricultural practice?**
- A. pastoral agriculture
 - B. collective farming
 - C. subsistence farming
 - D. plantation agriculture
217. **Which of the following statements are true about drug crops impact on food supply?**
- A. Farmers in LDCs grow drug crops for great profit
 - B. Drug crops use up arable land that could be used for food
 - C. MDC's produce a majority of the world's Drug Crops
 - D. Drug Crops are a parasitic and invasive species
218. **When does the government subsidize prices or pay for farmers to have empty fields?**
- A. want to donate the surplus to LDCs
 - B. they don't do that because we are a free market system
 - C. The government plays no role in agriculture
 - D. to compensate for overproduction to prevent inflation
219. **Refers to land that can be used to grow crops**
- A. Desertification
 - B. Domesticated
 - C. Arable
 - D. Overharvesting
220. **What information did Whittlesey's map from 1936 provide?**
- A. The relationship between the type of agriculture region and climate
 - B. The type and quantity of crops around the world
 - C. The areas of undernourishment in the world.
 - D. The distribution of farmers and machinery around the world.
221. **What is the agricultural activity associated with the raising of domesticated animals such as cattle, horses, sheep, and goats?**
- A. Animal farming
 - B. Ranching
 - C. Animal husbandry
 - D. Livestock

222. **The art and science of producing food from the land and tending livestock to feed humans.**
- A. Agribusiness
 - B. Agriculture
 - C. Biotechnology
 - D. Agricultural revolution
223. **What makes a pollinator beneficial?**
- A. The eat plants.
 - B. The kill pests.
 - C. They fertilize plants.
 - D. They make honey.
224. **Which type of commercial agriculture is found primarily in developing countries?**
- A. Plantation
 - B. Truck farming
 - C. Mediterranean
 - D. Livestock ranching
225. **Ranching is practiced in a climate most similar to that of which other type of agriculture**
- A. grain
 - B. pastoral nomadism
 - C. shifting cultivation
 - D. Mediterranean agriculture
226. **Asian agriculture is characterized by shortages of all but which of the following?**
- A. equipment
 - B. labor
 - C. land
 - D. funds
227. **Which of the following options best exemplifies pastoralism?**
- A. A small, organic farm grows corn, soybeans and squash together in rows.
 - B. A large farm grows a couple of profitable crops.
 - C. A small farm raising pigs and cows.
 - D. A group of nomadic shepherds tends flocks of goats and sheep in Eastern Africa.
228. **The type of agriculture practiced near large cities, which includes producing fruits and vegetables, is called**
- A. truck agriculture.
 - B. subsistence agriculture.
 - C. truck farming.
 - D. truck hybridization.
229. **Which of the following is generally NOT a typical practice in growing rice in Asia?**
- A. flooding the plowed field with water
 - B. growing seedlings in a nursery
 - C. transplanting seedlings into the flooded field
 - D. machine harvesting and winnowing
230. **Which of the following is NOT a Grain?**
- A. Wheat
 - B. Rice
 - C. Corn
 - D. Lettuce
231. **What is a trade-off?**
- A. The positive outcome of a decision only.
 - B. The negative outcome of a decision only.
 - C. Both the positive and negative outcome of a decision.
 - D. Trading Pokemon cards with your lunch friends.

232. **The development of ____, or farming, changed human society forever.**
- A. agriculture
 - B. domestication
 - C. towns
 - D. production
233. **What geographic factor best explains why a piece of land is used intensively or extensively for agriculture?**
- A. Soil quality.
 - B. Precipitation levels.
 - C. Climate region.
 - D. Distance to the market.
234. **To increase yields what practice to farmers in SE China engage in?**
- A. double cropping
 - B. slash and burn
 - C. threshing
 - D. crop rotation
235. **Theory that a commercial farmer will decide which crops to grow and which livestock to raise depending on the proximity to market.**
- A. Von Thunen Model
 - B. Gravity Model
 - C. Dependency Model
 - D. World Systems Theory
236. **The country that produces the most maize in the world is**
- A. Canada.
 - B. The United States.
 - C. Russia.
 - D. Brazil.
237. **The majority of undernourished people in the world can be found in**
- A. South Asia
 - B. Sub-Saharan Africa
 - C. North America
 - D. East Asia
238. **The largest proportion of farmers in Asia practice:**
- A. hunting and gathering.
 - B. intensive subsistence agriculture.
 - C. pastoral nomadism.
 - D. plantation agriculture.
239. **Practice that modifies the genome of living organisms for industrial use**
- A. Domesticated
 - B. Livestock
 - C. Biological pest control
 - D. Genetic engineering
240. **The process by which people engaged in shifting cultivation plant crops of varying heights in order to protect lower crops is called**
- A. ridge tillage.
 - B. intertillage.
 - C. shifting cultivation.
 - D. D) subsistence agriculture.
241. **A crop grown for direct sale rather than for livestock feed.**
- A. Commercial Crops
 - B. Plantation Farming
 - C. Luxury Crops
 - D. Agribusiness
242. **The exchange of plants, animals, diseases, and technologies between the Americas and the rest of the world during the 1500s.**
- A. Transhumance
 - B. Columbian Exchange
 - C. Old World
 - D. New World Order

243. **What is the principal grain consumed in developed countries in Europe and North America?**
- A. Rice
 - B. Wheat
 - C. Corn
 - D. Sorghum
244. **Commercial agriculture practiced in the tropics and subtropics is called**
- A. intensivesubsistence agriculture.
 - B. paddy rice farming.
 - C. plantation agriculture.
 - D. double cropping.
245. **The United States had about 60 percent fewer farms and ___ percent fewer farmers in 2000 than in 1900**
- A. 85
 - B. 15
 - C. 25
 - D. 99
246. **The fact that meat accounts for one-third of all protein intake in developed countries but only one-tenth in developing ones suggests**
- A. there is a cultural taboo against meat in developing nations.
 - B. developed nations can afford more meat per capita.
 - C. developing nations do not have sufficient grazing land.
 - D. developed nations do not produce sufficient grains to replace meat consumption.
247. **The effects of biotechnology are**
- A. positive because it allows for much greater agricultural yields.
 - B. limited because its expense prevents its accessibility to farmers in developing countries.
 - C. are unknown because not enough research has been conducted on them.
 - D. All of the above
248. **According to von Thunen, the regional geography of agriculture is determined by**
- A. land area
 - B. rent
 - C. availability of material input
 - D. cultural preferences
249. **Diverse specialty crops such as grapes, avocados, olives, and a host of nuts, fruits, and vegetables comprise profitable agricultural operations.**
- A. Suitcase Farming
 - B. Truck Farming
 - C. Market Gardening
 - D. Mediterranean Agriculture
250. **Raising of aquatic plants or animals for human use**
- A. Aquaculture
 - B. Overharvesting
 - C. Arable
 - D. Famine
251. **The most significant factor as to why North China grows crops other than wet rice is ___**
- A. Cultural tradition
 - B. Ethnic precedence
 - C. climate
 - D. soil
252. **What type of agriculture uses the largest percentage of the World's land area?**
- A. dairying

- B. mediterranean
C. plantation
D. shifting cultivation
253. **Which of the following is NOT a major grain exporter?**
A. China
B. Canada
C. USA
D. Australia
254. **Which land survey system is a relic of French cultural influence?**
A. Township and Range
B. Cadastral
C. Long Lot
D. Mets and Bounds
255. **Boserup's model states that food production will increase to meet a rising population because**
A. Farmers will adapt to rising demand and develop new methods to increase food production.
B. Boserup's model states that food will fail to meet the increased demand resulting in undernourishment and death for millions of people.
C. Life always finds a way.
D. The needs to the many outweigh the needs to the few. The majority of people will dictate where food resources are allocated.
256. **Von Thunen's model can best be used to explain the location of which of the following types of agriculture?**
A. dairying in the Northeast United States
B. shifting cultivation in the tropics of South America
C. intensive subsistence in South China
D. Mediterranean agriculture in central Chile
257. **Which of the following is least likely to be produced in Mediterranean agriculture?**
A. cereal grains
B. grapes
C. olives
D. butter
258. **Climate for Plantation farming**
A. Arid/Semi-Arid
B. cold and rainy winters, dry hot summers
C. tropical or sub-tropical
D. it varies and can happen in many climates
259. **Which is a reason for opposition of GMOs for places such as Africa?**
A. antibiotics may lose their effectiveness
B. concern about trade with Europe
C. higher resistance to pests and higher profit margins
D. all of the above
260. **Which of the following is NOT a company that is mentioned in the Pixar movies?**
A. Buy N Large
B. Dinoco
C. Lightyear Tires
D. Pizza Land Pizza
261. **What agriculture do we primarily find in LDC's?**
A. Mediterranean
B. plantations
C. truck/fruit farming
D. dairy farming

262. **How did early humans make canoes?**
- A. using branches from a tree
 - B. wood, clay, and bones
 - C. they hollowed out logs
 - D. none of above
263. **In the US, women make up how much of farmers?**
- A. 1/3
 - B. 1/5
 - C. 1/8
 - D. 1/2
264. **A farmer plants corn in a field one year, cotton in the same field the following year, and then corn again. This farmer is practicing ____**
- A. commercial farming
 - B. crop rotation
 - C. slash-and-burn agriculture
 - D. shifting cultivation
265. **What magazine covers the story of Darline Graf?**
- A. Women's Farming Magazine
 - B. Successful Farming Magazine
 - C. Farming News Magazine
 - D. Stories of Farming Magazine
266. **Which event spurred the exchange of agricultural products around the world?**
- A. The Columbian exchange
 - B. World War II
 - C. the invention of GMOs
 - D. enclosure
267. **Which of the following types of agriculture would agribusiness be involved in?**
- A. substance farming
 - B. drug crops
 - C. pastoral nomadism
 - D. livestock farming
268. **What change defined a shift during the Neolithic Era?**
- A. climate
 - B. people began to produce food instead of gathering it
 - C. migration
 - D. none of above
269. **Amount of crops produced per unit area**
- A. Diet
 - B. Famine
 - C. Malnutrition
 - D. Yield
270. **All of the following are plantation crops EXCEPT**
- A. tea
 - B. sugarcane
 - C. rubber
 - D. wheat
271. **Which NFL team has never been to the Super Bowl?**
- A. Buccaneers
 - B. Lions
 - C. Seahawks
 - D. Bills
272. **The production of crops without the use of synthetic or industrially produced pesticides and fertilizers is called ____**
- A. Synthetic Agriculture
 - B. Organic Agriculture
 - C. Primary economic activities
 - D. Seed crops

273. **Which of these terms best matches the following description: An agricultural process that involves nomadic animal husbandry?**
- A. Animal domestication
 - B. Pastoralism
 - C. Ranching
 - D. Dairying
274. **Which is the best example of Extensive farming practices?**
- A. A Chinese Rice Farmer who works 12 hours each day on their fields
 - B. A Brazilian cattle farmer who makes sure his cows eat organic feed
 - C. An American farmer in Iowa who oversees 10,000 acres with robots and drones to help her harvest Canola
 - D. A European produce company CEO who has 3,000 employees and harvests a large variety of crops
275. **The primary factor in von Thunen's model for choosing commercial farm products is**
- A. market location
 - B. climate
 - C. soil character
 - D. labor cost
276. **A way of supplying water to an area of land.**
- A. Irrigation
 - B. Canaling
 - C. Diversion
 - D. Overgrazing
277. **Truck farming typically includes the sale of:**
- A. fish
 - B. fruits
 - C. livestock
 - D. soybeans
278. **A form of commercial agriculture in which livestock graze over an extensive area.**
- A. Ranching
 - B. Plantation
 - C. Sawah
 - D. Transhumance
279. **Raising and cultivating fish and shellfish in controlled bodies of water is known as**
- A. Fish Farms
 - B. Ocean Farms
 - C. Aquaculture
 - D. Commercial Fisheries
280. **Which is the best example of fracking?**
- A. A farmer drills a 500 meter pipe into his land and installs 5 wells to extract oil
 - B. A big corporation drills a 1 km deep pipe into the land and pumps oil
 - C. A transport company builds a 2,000 mile long oil pipeline from Alaska to North Dakota
 - D. A contractor drills laterally from the bottom of an oil well to extend the area being accessed for oil.
281. **A poison used to destroy pests**
- A. Biological Pest Control
 - B. Pesticide
 - C. Genetic Engineering
 - D. Overharvesting
282. **The farther a dairy farm is from a large urban area, the lower the percentage of output devoted to fresh milk. This occurs primarily because:**
- A. land costs are lower farther from the urban area.
 - B. transport costs are greater farther from the urban area.
 - C. the quality of soil is lower near an urban area.

- D. processed milk is less perishable.
283. **Which of the following is not a feature of an agricultural cash crop?**
- A. Frequently grown as a monoculture
 - B. Produced according to market trends
 - C. Not suitable for subsistence farming
 - D. Only kept by the producer and never distributed
284. **What does the word cultivate mean?**
- A. To care for
 - B. To grow
 - C. Farming
 - D. Agriculture
285. **Which of the following was an environmental factor that contributed to the agricultural revolution?**
- A. End of the last ice age
 - B. Religious practices
 - C. Discovery of fire
 - D. Rivers
286. **What is the name of fuel that comes from corn?**
- A. Ethanol
 - B. Gasoline
 - C. Diesel
 - D. Biodiesel
287. **Because of cultural and environmental factors across space, ____ varies around the world.**
- A. farming
 - B. economies
 - C. subsistence agriculture
 - D. populations
288. **How has transportation changed agricultural production?**
- A. it has given agribusiness more advantages
 - B. farms have moved closer to markets
 - C. it has made subsistence farming easier
 - D. biotechnology has diminished
289. **In less developed countries, what percentage of agricultural production are women responsible for?**
- A. 75% to 95%
 - B. 70% to 80%
 - C. 60% to 80%
 - D. 60% to 75%
290. **Small amount of farmers farming large amounts of land describes this type of agriculture**
- A. Subsistent
 - B. Hunt and Gather
 - C. Commercial
 - D. Industrial
291. **Farming led to many innovations like**
- A. the calendar
 - B. the plow
 - C. irrigation systems
 - D. all of the answers are correct
292. **Pastoral nomadism is practiced in climates similar to that of ____**
- A. Mediterranean Agriculture
 - B. Subsistence Agriculture
 - C. Ranching
 - D. Plantations
293. **Which of the following provides the best example of quaternary economic activity?**
- A. An economic consultant who makes suggestions to companies as to which

- agricultural products to buy (coffee, dates, tobacco, etc.) given current market trends
- B. An American-based facility that purchases government-subsidized corn and manufactures food additives and high fructose corn syrup
- C. A public land grant college that develops a variety of rice that does not require flood irrigation and can be grown in semi-arid countries whose farmers are challenged by frequent drought
- D. A subsistence farmer in Ecuador that sells some crop surplus to the market, but farms to support a family who lives on less than two dollars a day
294. **The predominant form of agriculture in the U.S. Southeast is**
- A. dairy farming
- B. Mediterranean agriculture
- C. commercial gardening
- D. plantation farming
295. **This type of agriculture is common with commercial farmers who convert their operations to preserve and enhance environmental quality.**
- A. sustainable agriculture
- B. aquafarming
- C. crop rotation
- D. Green Revolution
296. **China, the U.S., Russia, and India are the leading producers of:**
- A. corn.
- B. commercial grain.
- C. wool.
- D. milk products.
297. **Which of the following is not a strategy for increasing food supply?**
- A. ensuring sustainable land productivity for future generations
- B. identifying new food sources
- C. increasing tariffs on grain exports
- D. increasing exports of surplus production
298. **What is one thing that did NOT happen to Earth during the ice ages?**
- A. ocean levels were lower than they are now
- B. areas that are now under water were dry land then
- C. all the ice melted
- D. land bridges between continents were exposed
299. **Hillside fields cut in step-like strips for farming**
- A. Slash and Burn Agriculture
- B. Swidden Agriculture
- C. Terraced Farming
- D. Shifting Cultivation
300. **The different areas of the world where Mediterranean agriculture predominates have similar:**
- A. cultural beliefs.
- B. climate.
- C. social customs.
- D. levels of livestock production.
301. **Major world powers and the countries that contain much of the wealth of the planet are known as**
- A. Site
- B. Core
- C. Complementarity
- D. Periphery

302. **A good bottle of wine is most likely to come from:**
- A. Brazil.
 - B. Chile.
 - C. Ecuador.
 - D. Guatemala.
303. **Which combination of animals was domesticated in Southwest Asia?**
- A. Water buffalo, pig, and chicken
 - B. Llama and alpaca.
 - C. Cattle, camel, and goat.
 - D. Sheep and goat.
304. **Most cereal grains produced in the United States are**
- A. eaten for breakfast.
 - B. exported to developing countries.
 - C. sold to food processing industries.
 - D. fed to livestock.
305. **Process by which human activities or climate change make areas more desert-like**
- A. Desertification
 - B. Domesticated
 - C. Arable
 - D. Overharvesting
306. **Europeans evolved from farming a single field in the early medieval times to rotating crops into how many different sections or fields by the 18th century?**
- A. One
 - B. Two
 - C. Three
 - D. Four
307. **Which agricultural revolution introduced Machines to farming for the first time?**
- A. Neolithic
 - B. Green
 - C. Second
 - D. Third
308. **Why might someone want to avoid chemical pest control?**
- A. It will kill pests.
 - B. It will kill good insects.
 - C. It will result in a larger crop.
 - D. It is wrong to kill insects.
309. **To increase crop yields, farmers in South China commonly practice**
- A. double cropping
 - B. threshing
 - C. pastoral nomadism
 - D. shifting cultivation
310. **Movement of animal herd to cooler highland areas in the summer to warmer lowland areas in the winter.**
- A. Suitcase Farming
 - B. Nomads
 - C. Transhumance
 - D. Shifting Cultivation
311. **What factor does not contribute to the variation in food consumption around the world?**
- A. development level of a country
 - B. physical conditions such as climate
 - C. cultural preferences
 - D. absolute location
312. **Pesticides do which of the following?**
- A. Reduce pests
 - B. Promote pest growth
 - C. Fertilize plants
 - D. Reduce crop yield

313. **Why did people have to learn to make clothes and build shelters?**
- A. they didn't
 - B. because they wanted to
 - C. because they moved to a climate that were colder than those in East Africa.
 - D. none of above
314. **Rubber, tea, coffee, cocoa, and palm oil is raised in**
- A. areas of shifting cultivation
 - B. high latitude zones
 - C. market gardens
 - D. intensive plantation agriculture
315. **This effort began in the 1940s and developed new strains of hybrid seeds and fertilizers that dramatically increased the crop output possible from each farm.**
- A. Agricultural Revolution
 - B. Second Agricultural Revolution
 - C. First Agricultural Revolution
 - D. Green Revolution
316. **Who is the first Human Geographer? He came up with the concept of the Cultural landscape**
- A. Carl Sauer
 - B. Colin Renfrew
 - C. Derwent Whittlesay
 - D. James Rubenstien
317. **The earliest known domesticated squash crops are thought to have originated in the Americas more than**
- A. 9, 000 years ago.
 - B. 1.1 million years ago.
 - C. 900 years ago.
 - D. 10 million years ago.
318. **The earliest known domesticated wheat, barley, and rice crops are thought to have originated in Asia about**
- A. 10, 000 years ago.
 - B. 1.1 million years ago.
 - C. 1, 000 years ago.
 - D. 10 million years ago.
319. **Where were cattle, sheep, and goats first domesticated?**
- A. Central America
 - B. Northeastern Africa
 - C. Southeast Asia
 - D. Northern China
320. **The production and harvesting of fish and shell fish in sectioned off coves and land-based ponds is technically referred to as**
- A. intensive subsistence agriculture.
 - B. deep sea fishing.
 - C. aquaculture.
 - D. Monoculture.
321. **The decline in the number of farmers in MDCs can best be described as a consequence of**
- A. push/pull economic factors, including the lack of opportunity in rural areas and higher paying jobs in urban areas
 - B. push/pull economic factors, including greater opportunities in rural areas and lower paying jobs in urban areas
 - C. the increase of populations in urban areas and the reduced population in rural areas
 - D. the spread of disease and starvation in rural areas, which reduced the populations of farmers
322. **Which of the following two points were the key driving forces behind the Green Revolution?**

- A. An exponential increase in the human population and the advent of industrial fertilizers.
- B. Agriculture expanding into arid and previously unarable regions and the resulting increase in irrigation systems and dependence on the water table.
- C. An exponential increase in the human population and the growing popularity of organic farming.
- D. A global trend of consuming more plant-based foods and advances in horticultural science from public land grant colleges.
323. **Which of the following explains the diffusion and successful cultivation of many plants and animals in new regions of the world through the Columbian Exchange?**
- A. Diffusion of plants and animals filled the loss in many areas from a number of plant and animal extinctions.
- B. Navigational technology allowed ships to travel more efficiently, enabling safe transport of plants and animals to new destinations.
- C. The plants and animals diffused to a region with climate and geography similar to that of their point of domestication.
- D. The plants and animals diffused only a short distance away from their point of domestication.
324. **Raising of domesticated animals for food or items like leather**
- A. Slash and Burn Agriculture
- B. Livestock Ranching
- C. Steer Raising
- D. Animaling
325. **In which of the following countries is the largest percentage of workers employed in the primary sector?**
- A. the U.S.
- B. China
- C. Nigeria
- D. Mexico
326. **Subsidies can include all of the following EXCEPT:**
- A. crop insurance
- B. financial aid
- C. tax breaks
- D. sustenance
327. **Intensive subsistence agriculture would be found in**
- A. Southeast Asia and sub-Saharan Africa
- B. Latin America and Southeast Asia
- C. East Asia and South Asia
- D. East Asia and Southwest Asia
328. **Which famous cultural geographer theorized that the invention of agriculture took place in multiple hearths?**
- A. Ester Bosrup.
- B. Henrich von Thunen.
- C. Carl Sauer.
- D. Walter Christaller.
329. **The purpose of ____ is to maintain the fertility of the fields.**
- A. crop rotation
- B. double cropping
- C. transhumance
- D. pastoral nomadism
330. **According to geographer Carl Sauer (who believed something slightly different than others), agriculture probably first originated in**
- A. the Fertile Crescent.
- B. Southeast Asia

- C. South America
 - D. Europe
331. **During the New Stone Age, people learned to polish stones to make tools like**
- A. hammers and axes
 - B. saws and drills
 - C. knives and screw drivers
 - D. none of above
332. **the use of natural substances rather than chemical fertilizers and pesticides to enrich the soil and grow crops**
- A. Non-GMO
 - B. Organic Farming
 - C. Sustainability
 - D. Earth Farming
333. **Hunting and gathering societies**
- A. are found in isolated places in the world
 - B. are characterized by large concentrations of people
 - C. occur nearly everywhere but are especially common in Europe
 - D. are responsible for most of the environmental degradation of the planet

1.21 Agriculture and Settlement

1. **Which statement best explains why pre-Neolithic peoples were largely nomadic?**
 - A. The main crops that pre-Neolithic people grew spoiled during the winter.
 - B. Humans had to follow the animal herds that were their main source of food.
 - C. Dangerous wild animals drove hunter-gatherers out of their territory.
 - D. Colder temperatures forced humans to migrate in search of temperate regions.
2. **The ability to store crops for future use solved which of the problems that Neolithic people faced?**
 - A. the unpredictability of annual flooding cycles
 - B. their inability to domesticate animals
 - C. the danger posed by hunting animals
 - D. the instability of their food supply
3. **Which statement best explains why early hunter-gatherers began to cooperate in social groups?**
 - A. Some members of the group had to specialize in taking care of children.
 - B. It was easier to hunt large game animals by working together with others.
 - C. They had to take care of the members of their group who were sick or injured.
 - D. Population increases led to competition for limited resources among groups.
4. **Which statement best explains why early nomads began to settle in the Fertile Crescent?**
 - A. The region was well-protected by natural defenses.
 - B. The region had lush vegetation and abundant animal life.
 - C. Numerous cities existed along the waterways of the region.
 - D. Numerous domesticated animals were native to the region.
5. **Based on the first forms of art they produced, archaeologists can infer that early humans created art**
 - A. using advanced tools
 - B. for the purpose of record keeping
 - C. that was most likely religious in nature
 - D. for mostly practical purposes

6. **Which statement best explains how humans' mastery of fire changed hunting methods?**
 - A. Fire made it possible to kill dangerous animals from a greater distance.
 - B. Fire gave humans the ability to hunt at night when game animals were easier to catch.
 - C. Fire allowed early humans to melt metals into weapons that could kill very large animals.
 - D. Fire enabled humans to cook the tougher meat of smaller, less dangerous animals.
7. **Which factor first influenced the migration patterns of early humans?**
 - A. changes in climate
 - B. changes in the ocean level
 - C. the pathways of major rivers
 - D. the movements of game animals
8. **Which statement best compares human life before and after the Neolithic Revolution?**
 - A. Before the Neolithic Revolution, humans were largely nomadic, but after it they lived in permanent settlements.
 - B. Before the Neolithic Revolution, humans lived in small cities, but after it the size of cities greatly increased.
 - C. Before the Neolithic Revolution, humans used metals to make weapons for hunting, but after it they used metals to build plows and other farming tools.
 - D. Before the Neolithic Revolution, humans lived primarily in hot climates, but after it they lived primarily in temperate regions.

1.22 Agricultural Systems

1. **All of these are examples of physical agricultural inputs. Except:**
 - A. Skills
 - B. Climate
 - C. Water
 - D. Land
2. **All of the following are benefits of agriculture EXCEPT:**
 - A. It contributes to the country's GDP
 - B. It provides a country with adequate food
 - C. It provides employment opportunities
 - D. It creates pension for farmers
3. **Animal Systems include the study of life processes, health, ____, genetics and management of domestic animals.**
 - A. nutrition
 - B. habits
 - C. living environments
 - D. hiding places
4. **Which agricultural system are we practicing when we plant different types of crops on the same piece of land one after the other?**
 - A. monoculture
 - B. strip cropping
 - C. crop rotation
 - D. intercropping
5. **Which of the following is a likely short-coming of the use of genetic engineering in agriculture?**
 - A. Increased dependence on agrochemicals
 - B. Increased need for mechanization on farms
 - C. Unanticipated ecological effects on natural ecosystems

- D. Taking longer than traditional methods
6. **All of the following are physical factors that influence agriculture EXCEPT:**
- A. Labour
 - B. Soil
 - C. Climate
 - D. Water Supply
7. **What is an agricultural input?**
- A. everything that goes into the production of an agricultural product
 - B. everything that goes into making the agricultural product
 - C. the results of the agricultural process
 - D. What is put back into the system
8. **Agriculture has contributed to the ____ and development of civilization for approximately 10, 000 to ____ years.**
- A. growth, 12, 000
 - B. decline, 12, 000
 - C. downfall, 20, 000
 - D. equalization, 12, 000
9. **One out every ____ careers in the United States are agribusiness related.**
- A. 3
 - B. 4
 - C. 5
 - D. 6
10. **The use of inorganic fertilizers causes environmental problems because they**
- A. are quickly leached out of the soil by rain
 - B. are slower acting and longer lasting
 - C. do not provide the soil with humus
 - D. have variable composition
11. **Farming that focuses on producing enough food to feed the farmer's family.**
- A. agro-biotech
 - B. commercial agriculture
 - C. monoculture
 - D. subsistence agriculture
12. **In a traditional economic system, which type of goods is most often produced?**
- A. agricultural products
 - B. heavy industrial machinery
 - C. military supplies
 - D. electronics and computers
13. **All of these are examples of human agricultural inputs. Except:**
- A. Land
 - B. Labour
 - C. Knowledge
 - D. Skills
14. **In California, agriculture provides 1 in ____ jobs.**
- A. 9
 - B. 10
 - C. 11
 - D. 12
15. **The Mediterranean ecosystem/climate is located ____ and ____ of the Equator.**
- A. North pole and South pole
 - B. North and South
 - C. East and West
 - D. On top of and center
16. **A farming system in which the products are sold for use away from the farm.**
- A. subsistence agriculture
 - B. commercial agriculture
 - C. sustainable agriculture
 - D. organic agriculture

17. **What is the name of the cropping system when planting is done from left to right along the contour of the hilly farm land**
- A. monoculture
 - B. contour strip cropping
 - C. contouring cropping
 - D. strip cropping
18. **What is an agricultural output?**
- A. the results of the agricultural process
 - B. everything that goes into making the agricultural product
 - C. What is put back into the system
 - D. everything that goes into the production of an agricultural product
19. **Agricultural practices that conserve soil and water resources.**
- A. sustainable agriculture
 - B. organic agriculture
 - C. commercial agriculture
 - D. subsistence agriculture
20. **What is feedback in a system?**
- A. What is put back into the system
 - B. the results of the agricultural process
 - C. everything that goes into the production of an agricultural product
 - D. everything that goes into making the agricultural product
21. **"The farm lands are usually smaller in size." This statement applies to:**
- A. Commercial Farming
 - B. Extensive Farming
 - C. Peasant Farming
 - D. Pastoral Farming
22. **One DISADVANTAGE of the mechanization of agriculture is:**
- A. it enables uncultivated land to be taken into cultivation quickly
 - B. crop yields tend to be higher
 - C. harvesting is done more quickly
 - D. heavy machinery use can cause soil compaction
23. **What is California's #1 commodity?**
- A. Hay
 - B. Oranges
 - C. Lettuce
 - D. Mild and Cream
24. **The top agricultural state is**
- A. Nebraska
 - B. Texas
 - C. California
 - D. Iowa
25. **Riverside County is ___ out of 58 counties in production of commodities.**
- A. 12
 - B. 13
 - C. 14
 - D. 15
26. **What is an agricultural process?**
- A. everything that goes into making the agricultural product
 - B. the results of the agricultural process
 - C. What is put back into the system
 - D. everything that goes into the production of an agricultural product
27. **All of these are examples of negative agricultural outputs. Except:**
- A. Eggs
 - B. Water pollution from pesticides
 - C. Soil erosion
 - D. Dead animals

28. **The two mountain ranges that are on the west and the east sides of the Central Valley are**
- A. San Gabriel Mountains and Sierra Nevada
 - B. Mt. San Jacinto and Mt. Baldy
 - C. Mount Kilimanjaro and Mount Shasta
 - D. Sierra Nevada and Mountain Ranges
29. **All of these are examples of things that are put back into the system. Except:**
- A. Opinion about someone's work
 - B. Money
 - C. Knowledge
 - D. Seeds
30. **Vegetation is usually cleared to facilitate agriculture. Which TWO impacts are identified here?**
- A. Global Warming and Deforestation
 - B. Pollution and Global Warming
 - C. Deforestation and Pollution
 - D. Land Development and Pollution
31. **Agricultural inputs can be split into two categories:**
- A. Physical and human
 - B. Capital and machines
 - C. Positive and negative
 - D. Good and bad
32. **Agribusiness involves the managing, marketing and financing of food, fiber and fuel products for ___ and global markets.**
- A. outer space
 - B. domestic
 - C. South America
 - D. Africa
33. **Farming system that relies on natural ecological systems versus the use of chemical pesticides**
- A. organic agriculture
 - B. commercial agriculture
 - C. subsistence agriculture
 - D. inventive agriculture
34. **All of these are examples of physical agricultural process. Except:**
- A. Skills
 - B. Seeding
 - C. Feeding
 - D. Fertilising
35. **What did the Central Valley start out as?**
- A. A giant lake
 - B. A Gulf off the Pacific Ocean
 - C. A swollen river
 - D. An underground spring
36. **All of these are examples of positive agricultural outputs. Except:**
- A. Pollution
 - B. Eggs
 - C. Milk
 - D. Money
37. **Which of the following is one of California's Export Markets?**
- A. Texas
 - B. Iowa
 - C. Japan
 - D. Nebraska
38. **What is the name of the giant fault, caused by the movement of the Pacific Plate against the North American Plate?**
- A. Your fault
 - B. Garlock fault
 - C. San Andreas fault
 - D. Hayward fault

1.23 Farm and Agriculture

1. **What is the Full form of GCMMF**
 - A. Gujarat Association Milk Marketing Federation
 - B. Gulf Cooperative Milk Marketing Federation
 - C. Goa Cooperative Milk Marketing Federation
 - D. Gujarat Cooperative Milk Marketing Federation
2. **Which are the Places in India that Practice Co-operative farming**
 - A. Andhra Pradesh
 - B. Kolkata
 - C. Maharashtra
 - D. Kerala
3. **Animals that are raised for human use are**
 - A. Domesticated
 - B. Livestock
 - C. Ruminant
 - D. Aquaculture
4. **What is the number one job in the world?**
 - A. Manufacturing
 - B. Doctor
 - C. Advertising
 - D. Agriculture
5. **Which factor plays the most crucial role in governing agricultural activities throughout the world?**
 - A. Temperature
 - B. Climate
 - C. Rainfall
 - D. Humidity
6. **All of the following foods contain corn as an ingredient EXCEPT:**
 - A. Popcorn
 - B. Organic Mac and Cheese
 - C. Canned peaches
 - D. Peanut Butter
7. **Animals that are raised for human companionship are**
 - A. Domesticated
 - B. Livestock
 - C. Ruminant
 - D. Aquaculture
8. **___ agriculture is a primitive agricultural technique**
 - A. Slash and burn
 - B. Podu
 - C. Valre
 - D. Khil
9. **Pepperoni comes from what animal?**
 - A. cows
 - B. chickens
 - C. pigs
 - D. horses
10. **Plantation farming is a type of**
 - A. Subsistence farming
 - B. Intensive farming
 - C. Commercial farming
 - D. Grain farming
11. **What do farmers use to plow their fields?**
 - A. rakes
 - B. trucks
 - C. animals
 - D. tractors

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12. **What meat is the most widely eaten in the whole world?**
A. beef
B. chicken
C. lamb
D. pork
13. **Baby cows are called ____**
A. chicks
B. calf
C. foal
D. baby cows
14. **Baby horses are called ____**
A. chicks
B. calves
C. foals
D. baby horses
15. **The term agriculture is derived from the Latin word**
A. Ager and culture
B. Anger and culture
C. Angel and culture
D. Eager and culture
16. **Which of the following is the new Trend in the field of Agriculture?**
A. Commercial Grain Farming
B. Commercial Farming
C. Co-operative Cultivation
D. none of above
17. **A highly specialised commercial agriculture in which citrus fruits are grown.**
A. Mediterranean agriculture
B. Mixed farming
C. Horticulture
D. none of above
18. **Which type of agriculture deals with growing crops and raising livestock to feed the family only?**
A. Pastoral Agriculture
B. Subsistence Agriculture
C. Commercial Agriculture
D. Surplus Agriculture
19. **What helps keep crops healthy and nutritious?**
A. soil
B. pesticides
C. fertilizer
D. milk
20. **Tropical fish and birds come under ____ products of agriculture.**
A. Commercial
B. Ornamental
C. Intensive
D. none of above
21. **West Bengal is the largest producer of**
A. Wheat
B. Cotton
C. Jute
D. Coffee
22. **Animals raised on a farm to be sold for profit**
A. Domesticated
B. Livestock
C. Aquaculture
D. Ruminant
23. **A female horse is called what?**
A. mama horse
B. mare
C. calf
D. foal

24. **What type of farming is practiced to produce food for sale off the farm?**
- A. Commercial
 - B. subsistence
 - C. seed
 - D. vegetative
25. **As discussed in the Presentation, Which year did Amul Form**
- A. 1947
 - B. 1985
 - C. 1974
 - D. 1946
26. **Animals that hurt plants and cause damage are known as ____**
- A. pests
 - B. pollinators
 - C. irritants
 - D. insects
27. **The term agriculture is derived from which language?**
- A. Persian
 - B. Greek
 - C. Latin
 - D. Spanish
28. **Land on which crops are grown**
- A. Dry land
 - B. Arable land
 - C. Hilly area
 - D. Deserts
29. **The dairy cooperative, Amul, initiated**
- A. Milk revolution
 - B. Cooperatives in India
 - C. Gujarat dairies
 - D. White revolution
30. **In intensive farming-**
- A. Maximum usage of maximum land is done
 - B. Minimum usage of maximum land is done
 - C. Minimum usage of minimum land is done
 - D. Maximum usage of minimum land is done
31. **Agriculture is defined as**
- A. Primary Activity
 - B. Secondary Activity
 - C. Tertiary Activity
 - D. None of these
32. **Which is the main occupation in India?**
- A. Manufacturing
 - B. Doctor
 - C. Advertising
 - D. Agriculture
33. **Cotton grows well in the following type of climate**
- A. Hot and humid
 - B. Hot and dry
 - C. Cold and dry
 - D. Cold and humid
34. **This animal is our primary source for milk**
- A. cows
 - B. goats
 - C. lamb
 - D. chicken
35. **What animal gives us eggs to eat for breakfast?**
- A. goats
 - B. chickens
 - C. cows
 - D. ducks

36. **The cultivation of Grapes is called**
- A. Horticulture
 - B. Pisciculture
 - C. Sericulture
 - D. Viticulture
37. **All of the following foods contain corn ingredient EXCEPT:**
- A. Popcorn
 - B. Organic Mac and Cheese
 - C. Canned peaches
 - D. Peanut Butter
38. **A plant cultivated by people is called a**
- A. green
 - B. stem
 - C. crop
 - D. tree

1.24 Sustainable Agriculture

1. **Which of the following accounts for the largest portion of carbon footprint when it comes to food?**
 - A. Processing
 - B. Transportation
 - C. Cooking
 - D. Waste disposal
2. **This prevents soil erosion and suppresses/reduces weeds.**
 - A. cover crops
 - B. crop rotation
 - C. monoculture
 - D. tillage
3. **Most or all trees in an area are uniformly cut down.**
 - A. clear cutting
 - B. cover crops
 - C. monoculture
 - D. slash and burn
4. **Preparing a field by digging, stirring, or overturning soil**
 - A. clear cutting
 - B. cover crops
 - C. monoculture
 - D. tilling
5. **Which of the following are harmful effects of agriculture?**
 - A. Algal blooms due to fertilizer runoff
 - B. Climate change associated with methane emissions from livestock and rice paddies
 - C. Pesticide residue in food, water, and air
 - D. All of the above
6. **Aquaponics is an ecosystem where ____**
 - A. The fish feeds the plants and the plants clean the water for the fish
 - B. the farmer feeds the fish and then feeds the plants
 - C. the plants clean the fish and the water feeds the plants
 - D. the fish feed the fish and the plants feeds the plants
7. **the area of land where all of the water that falls in it and drains off of it goes into the same place**
 - A. market
 - B. sustainable agriculture
 - C. ripple effect
 - D. watershed

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8. **A measure of human demand on the Earth's ecosystems. It compares human demand with planet Earth's ecological capacity to regenerate**
 - A. Ecology
 - B. Ecological Footprint
 - C. Environment
 - D. none of above
9. **How are aquatic dead zones created?**
 - A. Using fertilizers and runoff
 - B. Spraying pollen and rockslides
 - C. Climate change
 - D. Walls changing migration patterns
10. **the natural home or environment of an animal, plant, or other organisms**
 - A. economy
 - B. conservation tillage
 - C. habitat
 - D. fertilizer
11. **Growing only one type of crops does what to the soil?**
 - A. takes water out of the soil
 - B. takes oxygen out of the soil
 - C. takes pests out of the soil
 - D. can contribute to nutrient depletion
12. **The Swordfish has an MSC Certification label on it. What does this mean?**
 - A. The fish is certified to be organic and free of pesticides and antibiotics.
 - B. The fish comes from a facility that follows sustainable fishing practices.
 - C. The fish was not harvested using any form of seining, netting, or trawling.
 - D. The fish came from a Marine Reserve.
13. **I can't think of any more questions. What are our names?**
 - A. Ariel, Karen, Arora
 - B. Kate, Akeelah, Anaika
 - C. Ambika, Kara, Anira
 - D. asdfghjkl, qwertyuiop, zxcvbnm
14. **Adding a layer of manure, mulch, or compost**
 - A. cover crops
 - B. clear cutting
 - C. monoculture
 - D. soil enrichment
15. **What do conventional farmers do to keep pests off their crops?**
 - A. zap them with an electric fence
 - B. burn their grass yearly
 - C. spray the crops with pesticides
 - D. grow the crops close together
16. **Growing different crops in succession in the same field. This helps replenish soil nutrients.**
 - A. clear cutting
 - B. crop rotation
 - C. monoculture
 - D. tillage
17. **the basic equipment and structures (such as roads and bridges) that are needed for a country, region, or organization to function properly**
 - A. infrastructure
 - B. conservation tillage
 - C. habitat
 - D. fertilizer
18. **Because it uses less pesticides, organic farming — pollution to the soil and the air.**

- A. reduces
B. reducing
C. reduced
D. none of above
19. **Which of the following is NOT a factor that affects soil erosion in agriculture?**
A. Climate
B. Type of vegetation
C. Altitude
D. Slope steepness
20. **The benefits of managing the grazing includes**
A. preventing the scrub-land plants from establishing & maintaining the soil fertility
B. efficient use of available fertilizers
C. a wider diet for farmers
D. reducing the need of irrigation
21. **the wealth and resources of a country or region, especially in terms of the production and consumption of goods and services**
A. economy
B. conservation tillage
C. best management practices
D. crop residue
22. **Organic fertilizers ____**
A. are a waste product
B. uses a lot of energy
C. improves the soil structure
D. act faster
23. **The aims of sustainable agriculture include the following**
A. meeting the need of the population while sustaining the economic Independence
B. making efficient use of non- renewable resource
C. supporting natural ecosystem
D. all of the above
24. **A space between the land and the waterway ideally filled with native grass, bushes, and trees**
A. market
B. population density
C. organic material
D. riparian area
25. **What do we call it when an ecosystem is able to maintain its structure and be stable over time?**
A. It is dependable.
B. It is sustainable.
C. It is independent.
D. It is adaptable.
26. **Agriculture can be harmful to the lithosphere because fertilizers and ____ can pollute the water.**
A. pesticides
B. monoculture
C. hydrofracking
D. uranium
27. **The ____ is a government agency that serves us by enforcing and forming laws that protect the environment.**
A. DDT
B. EPA
C. CIA
D. FBI
28. **Which kitchen appliance uses the most energy?**
A. Refrigerator
B. Toaster

- C. Oven
D. Microwave
29. **The cutting and burning of plants in forests or woodlands to create fields.**
A. crop rotation
B. slash and burn
C. tillage
D. cover crops
30. **Why is biodiversity important in fighting disease in food crops?**
A. It prevents one disease from wiping out an entire food crop.
B. It prevents habitat loss of native species.
C. It provides different foods for different populations.
D. It prevents fungal disease from wiping out corn crops.
31. **___ is the well known example of early chemical insecticide**
A. Boric Acid
B. Diazinon, Dursban, toxaphene
C. Dichloro-Diphenyl-Trichloroethane
D. Malathion
32. **an approach to agriculture that focuses on producing food while improving the economic viability of farms, protecting natural resources, and enhancing the quality of life for farmers and society as a whole**
A. market
B. sustainable agriculture
C. ripple effect
D. riparian area
33. **any material of natural or synthetic origin that is applied to soils or plant tissues to supply one or more nutrients essential to plant growth**
- A. economy
B. conservation tillage
C. best management practices
D. fertilizer
34. **Which type of fishing has high rates of bycatch and highly destructive of benthic communities.**
A. Pole Fishing
B. Long Line Fishing
C. Purse Seining
D. Trawling
35. ***If not packaged properly, canned foods are vulnerable to what type of bacteria?**
A. E. Coli
B. Salmonella
C. Botulinum
D. Campylobacter
36. **The rearing of aquatic animals and plants for human consumption or use.**
A. ranching
B. aquaculture
C. agriculture
D. cultivation
37. **Sustainability is to**
A. maintain our resources for the future generation
B. not to use the natural resources
C. not to pollute the environment
D. use only clean energy
38. **farming methods that reduce the intensity or frequency of tilling in order to maintain some ground cover throughout the year and disturb the soil as little as possible while still providing the conditions needed to grow a productive crop**
A. career

- B. conservation tillage
C. best management practices
D. crop residue
39. **What would happen if industrial farmers stopped using inorganic chemical fertilizers?**
A. Crop yields would decrease dramatically
B. Crop yields would increase dramatically
C. Farmers would use much more water
D. The need for pesticides would decrease
40. **a place where products are bought and sold**
A. market
B. innovation
C. irrigation
D. fertilizer
41. **methods that can improve efficiency, optimize resources, and prevent or help reduce pollution**
A. agriculture
B. 4R Nutrient Stewardship System
C. best management practices
D. crop residue
42. **The ___ industry generates nearly one-fifth of the man-made greenhouse gas emissions worldwide.**
A. Meat
B. Dairy
C. Processed Food
D. none of above
43. **Removing more organisms from a population than can be replaced**
A. Livestock
B. Domesticated
C. Overharvesting
D. Yield
44. **The loss of the Atlantic Cod around Newfoundland occurred because those fisheries were ___**
A. Underexploited
B. Fully exploited
C. Overexploited.
D. None of the above.
45. **What is land called that is suitable for farming?**
A. Growable
B. Fallow
C. Arable
D. Plantable
46. **plant material remaining in a field after harvesting, including leaves, stalks, and roots**
A. career
B. conservation tillage
C. best management practices
D. crop residue
47. **helps farmers apply the right source of nutrients at the right rate, time, and place on their fields**
A. agriculture
B. 4R Nutrient Stewardship System
C. conservation tillage
D. crop residue
48. **an occupation is undertaken for a significant period of a person's life and with opportunities for progress; generally, a profession requiring special training**
A. career
B. 4R Nutrient Stewardship System

- C. best management practices
D. crop residue
49. **All of the following are benefits of pesticide use EXCEPT**
A. disease control
B. crop protection
C. genetic resistance
D. lower food costs for consumers
50. **If a food label says 'organic', what does it mean?**
A. It contains no genetically modified organisms
B. It was produced using the best sustainable agricultural methods.
C. It is free of antibiotics, growth hormones and pesticides
D. All of the above
51. **A ___ is a prolonged period of below average precipitation in an area.**
A. Famine
B. Drought
C. Yield
D. Green Revolution
52. **Which are crops that can grow in a Greenhouse?**
A. Strawberries, Oranges, Peaches
B. Carrots, Beans, Beets
C. Spinach, Lettuce, Kale
D. All the above
53. **Which movement encourages us to buy local produce and make home cooked meals?**
A. Slow Food
B. Organic
C. Biodynamic
D. none of above
54. **meeting the economic, social, and environmental needs of the present without compromising the needs of the future**
A. market
B. sustainable
C. ripple effect
D. riparian area
55. **Which of the following is NOT a way of conserving topsoil:**
A. Build terraces when planting crops on hillsides
B. Till down the slope instead of across it
C. Do not till the soil between plantings
D. Leave strips of land untilled between fields
56. **artificial application of water to the land or soil to assist plant growth**
A. infrastructure
B. innovation
C. irrigation
D. fertilizer
57. **In organic farming, how is food grown?**
A. in a "natural" way
B. in a barn
C. in a factory
D. using lots of pesticides and fertilizers
58. **Washing your fruits and vegetables with a mix of water and ___ can help remove pesticide residues.**
A. Lime
B. Baking Soda
C. Sugar
D. Vinegar
59. **The agricultural practice of growing a single crop, plant, or livestock species at one time.**

- A. Uniculture
B. Biculture
C. Monoculture
D. low input farming
60. **the application of scientific knowledge for practical purposes**
A. market
B. sustainable agriculture
C. ripple effect
D. technology
61. **What change would best aid a farmer in making the transition from traditional farmer to sustainable farming?**
A. Irrigate the crops using well water
B. Rotate the types of crops grown
C. Plant only genetically modified crops
D. Reduce the ratio of essential elements in the fertilizer
62. **a measurement of population per unit area or unit volume**
A. market
B. population density
C. organic material
D. fertilizer
63. **Composting can help reduce household waste, but which one of these should not be used?**
A. Egg shells
B. Meat trimmings
C. Fruit Peels
D. Seeds
64. **The ability to maintain an ecological balance in an ecosystem is**
A. engineering
B. sustainability
C. natural ecosystem
D. balanced ecosystem
65. **How might scientists check to make sure their GMO worked?**
A. Add a fluorescent (glowing) gene (with the gene of interest) to see if the final product glows
B. Add another gene (with the gene of interest), like a resistance to herbicide gene, to test for its addition in the final product.
C. Add pests to the final product to see if they live or die!
D. All of the above!
66. **Growing a single crop or plant species over a wide area and for many consecutive years.**
A. clear cutting
B. cover crops
C. monoculture
D. tillage
67. **A "conventional" farm is where**
A. food is grown naturally
B. typically only one crop is grown on a large scale
C. only water from a lake is used
D. more than one crop is grown
68. **someone who identifies with being part of an emerging world community and whose actions contribute to building this community's values and practices**
A. economy
B. conservation tillage
C. global citizen
D. fertilizer
69. **a new method, idea, or product**
A. infrastructure
B. innovation
C. habitat
D. fertilizer

70. **Rainwater harvesting is ____**
- A. reducing the need to water the crop
 - B. Targeting the delivery of water
 - C. automation of the process
 - D. water collection from buildings & hard standing areas
71. **relating to living things; made without the use of artificial chemicals**
- A. market
 - B. innovation
 - C. organic material
 - D. fertilizer
72. **Why do people like organic products?**
- A. Because they are cheaper
 - B. Because they have less pesticide
 - C. Because they are more expensive
 - D. none of above
73. **the science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products**
- A. agriculture
 - B. 4R Nutrient Stewardship System
 - C. conservation tillage
 - D. crop residue
74. **Cultivated rows run sideways, rather than up and down. Slows down water erosion.**
- A. Shelter belt
 - B. Strip cropping
 - C. Terracing
 - D. Contour plowing
75. **Junk food promotes overeating because -**
- A. It offers more calories in small quantities
 - B. It's low in fiber
 - C. It's high in fat, sugar and salt
 - D. It tastes good
76. **Which of the following are environmental impacts of extensive aquaculture?**
- A. spread of disease
 - B. pollution
 - C. introduced species
 - D. all of the above
77. **Desertification is caused by:**
- A. An increase in the eating of desserts
 - B. A decrease in population in desert areas
 - C. The degradation of soil in semi-arid regions
 - D. Droughts in tropical regions
78. **What is the official definition for sustainability?**
- A. Understanding how to meet the needs of the present generation
 - B. Understanding how to meet the needs of the present without compromising the needs of the future generation
 - C. Understanding how to meet the needs of future generations
 - D. none of above
79. **Step like ridges are built and arranged sideways on a hill. Slows down water erosion.**
- A. Shelter belt
 - B. Strip cropping
 - C. Terracing
 - D. Contour plowing
80. **the simple planting of seed starts a chain of events that help the farmer, community, and eventually the world**
- A. market
 - B. population density

- C. ripple effect
- D. riparian area
- 81. **Rows of trees are planted close together to help force wind movement upward, away from the ground.**
 - A. wind break
 - B. Strip cropping
 - C. Terracing
 - D. Contour plowing
- 82. **Most or all trees in an area are uniformly cut down at one time.**
 - A. clear cutting
 - B. cover crops
 - C. monoculture
 - D. slash and burn
- 83. **Whole foods require less processing since they are whole, therefore —**
 - A. use less fossil fuels to process
 - B. are usually grown in monoculture
 - C. cost society money and lost time in the work force
 - D. require more pesticides causing air, water and soil pollution

1.25 Agriculture Marketing

- 1. **When producers of agricultural commodities form a society with an objective of carrying out marketing of their produce, such society is called as**
 - A. Regulated Marketing
 - B. Co-operative Marketing
 - C. State Trading
 - D. Restricted Marketing
- 2. **AGMARK enables to ensure**
 - A. Quality of product
 - B. higher price
 - C. lower price
 - D. Quantity of product
- 3. **Market information reduces exploitation of**
 - A. Traders
 - B. Villagers
 - C. Farmers
 - D. Middlemen
- 4. **Demand for agricultural commodities**
 - A. very elastic
 - B. unit elastic
 - C. less elastic
 - D. more elastic
- 5. **Agricultural market faces the problem of**
 - A. seasonal price fluctuation
 - B. low price when crop fails
 - C. high price when there is bumper crop
 - D. price stability
- 6. **What is the role of National Agriculture Market e-NAAM?**
 - A. Online trading platform
 - B. Online information platform
 - C. Digital registration platform
 - D. Online license platform
- 7. **Regulated markets aim to protecting**
 - A. Farmers
 - B. Traders
 - C. Middlemen
 - D. Villagers

8. **A full form of APMC is**
 - A. Agriculture Product Material Committee
 - B. Agriculture Product market Commission
 - C. Agricultural Produce Market competition
 - D. Agricultural Produce Market Committee
9. **Which of the following is not a defect of Indian agricultural market**
 - A. Lack of standard measures and weight
 - B. Inadequate transport facility
 - C. Insufficient price incentives by government
 - D. Agricultural produce not graded properly
10. **Full form of NAFED is**
 - A. National Agriculture Cooperation Market Fund of India
 - B. National Agreement of Cooperative Marketing fund
 - C. National Agricultural Cooperative Marketing Federation of India Ltd.
 - D. National Agricultural compromising Market Federation of India Ltd.
11. **___ market is wholesale market where buying and selling is regulated and controlled by the state government through the market committee.**
 - A. State trading
 - B. Restricted
 - C. Co-operative
 - D. Regulated
12. **A good agricultural market infrastructure includes**
 - A. Unregulated market
 - B. Warehousing facilities
 - C. non-institutional finance
 - D. Constructions of buildings

1.26 Early Agriculture

1. **What was the most common reason Paleolithic people chose to migrate, or move from place to place?**
 - A. They needed to find employment and an income
 - B. To find resources such as food and shelter
 - C. To explore the world.
 - D. They needed to find better transportation.
2. **Why did the Paleolithic people move from place to place?**
 - A. They needed to find employment and an income
 - B. To find resources such as food and shelter
 - C. To explore the world.
 - D. They needed to find better transportation.
3. **Define the Neolithic Revolution ___**
 - A. the shift from food gathering to food producing
 - B. the start of city-states
 - C. a time of hunting and gathering
 - D. when people fought with farm tools
4. **Which development occurred after Neolithic people made permanent shelters?**
 - A. Hunting Animals
 - B. Creation of small cities
 - C. Growing Crops

- D. Herding Animals
5. **What was the steady food supply during the Neolithic Era?**
 - A. they had to roam around looking for food
 - B. wheat and barley
 - C. pumpkins and potatoes
 - D. Chicken and Corn
 6. **In what ways did fire help humans?**
 - A. humans could cook food
 - B. it provided light and warmth
 - C. it scared away wild animals
 - D. all of the above
 7. **How did people migrate to North America?**
 - A. Canoeed from Hawaiian Islands
 - B. Walked across the Bering Land Bridge
 - C. Sailed from island to island from Europe
 - D. Used Kayak.com and booked the cheapest trip
 8. **By the beginning of the Bronze Age, civilizations began to emerge most commonly near ____**
 - A. mountains
 - B. oceans
 - C. rivers
 - D. rain forests
 9. **What is the most important revolutionary change between the Paleolithic and Neolithic cultures?**
 - A. the shelters people used
 - B. the way people got food for themselves through farming
 - C. the tools people used
 - D. the clothes people wore
 10. **What is the job of an Archaeologist?**
 - A. to study past cultures, human remains, settlements, fossils, and artifacts
 - B. To study scientific and historical fossils from dinosaurs
 - C. To find cool stuff underground
 - D. To study the relationship between geography and fossils
 11. **The era also known as the "New Stone Age".**
 - A. Mesolithic Era
 - B. Neolithic Era
 - C. Paleolithic Era
 - D. Mesozoic Era
 12. **What shape is used to represent Social Structure?**
 - A. Circle
 - B. Square
 - C. Dodecahedron
 - D. Triangle
 13. **Which statement best describes the Neolithic people?**
 - A. They lived in caves or built simple shelters.
 - B. They migrated from place to place to hunt animals for food.
 - C. They could settle in one place because they had a reliable food supply.
 - D. They used simple tools made from stone.
 14. **Where did the names for the different ancient time periods come from?(ex:Neolithic)**
 - A. From Latin names
 - B. Primarily from the tools they use
 - C. Kings or rulers last names
 - D. poetry from that time period

15. **What did the hunters and gatherers have to develop before they could effectively work together?**
- A. tools
 - B. language
 - C. fire
 - D. domestication of animals
16. **Which one of the following was NOT a criteria for succesful domestion of animals?**
- A. Must be able to provide the food in a reasonable way for the animal
 - B. Must be able to reproduce with regularin captivity
 - C. Must be manageable and easy to train/herd
 - D. musy be a fur bearing animal
17. **What does the word social classes mean?**
- A. The system that a community uses to produce and distribute goods and services
 - B. supply of something that can be used as needed
 - C. Groups of people that occupy different ranks or levels in society
 - D. Set of shared beliefs about supernatural powers that created and rule the world
18. **What does the word surplus mean?**
- A. complex society that has cities, a well-organized government, and workers with specialized job skills
 - B. Set of shared beliefs about supernatural powers that created and rule the world
 - C. Groups of people that occupy different ranks or levels in society
 - D. more than people need to feed themselves
19. **Which is an example of how hunter-gatherers adapted to their environment?**
- A. They used electricity from clouds
 - B. They used animal skins for clothing
 - C. They used fire to dry their clothes
 - D. They used dogs to help them herd sheep
20. **Times of extreme cold when great sheets of ice covered parts of the Earth were called the**
- A. ice ages
 - B. Bronze Age
 - C. Stone Age
 - D. Golden Age
21. **Why did early humans migrate around the world?**
- A. They wanted to travel
 - B. They were tired of the same places
 - C. There were not enough animals to hunt or food to gather
 - D. There was not enough good schools
22. **Cows, pigs, and chickens are all examples of ____ animals.**
- A. trained
 - B. mammalian
 - C. farm
 - D. domesticated
23. **Which of the following regions were NOT centers of farming?**
- A. Africa
 - B. Turkey
 - C. Southern China
 - D. Central Europe
24. **What is the most important change between the Paleolithic and Neolithic cultures?**
- A. the shelters people used

- B. the way people got food for themselves through farming
C. the tools people used
D. the clothes people wore
25. **Which of the following would you most likely find in the Paleolithic Era?**
A. jewelry made of smooth stones
B. farms
C. cave paintings
D. domesticated animals
26. **What is the greatest change between the Paleolithic and Neolithic cultures?**
A. the shelters people used
B. the way people got food for themselves
C. the tools people used
D. the clothes people wore
27. **Which of the following is an example of Paleolithic technology?**
A. flint axe head
B. the wheel
C. an iron pot
D. written language
28. **What is a surplus?**
A. More than is needed
B. Less than is needed
C. Just enough
D. none of above
29. **What invention helped Neolithic farmers become more productive (means to do more) ____**
A. women in the fields
B. children working the fields
C. plow
D. tractor
30. **What modern day country is Catalhoyuk located in?**
A. China
B. Europe
C. Turkey
D. Anatolia
31. **What does the word religion mean?**
A. Set of shared beliefs about supernatural powers that created and rule the world
B. complex society that has cities, a well-organized government, and workers with specialized job skills
C. Groups of people that occupy different ranks or levels in society
D. people spend most of their time working at a single job or craft
32. **How did the start of farming change early human tribes?**
A. It allowed them to stay in one place and build villages and cities.
B. It caused them to continue to hunt animals and gather plants.
C. It ended fighting between the tribes for land.
D. It stopped them from building temples for their gods.
33. **What does the word economy mean?**
A. The system that a community uses to produce and distribute goods and services
B. supply of something that can be used as needed
C. Groups of people that occupy different ranks or levels in society
D. to change the growth of plants or behavior of animals in ways that are useful to humans

34. **What does the word civilization mean?**
- A. complex society that has cities, a well-organized government, and workers with specialized job skills
 - B. Set of shared beliefs about supernatural powers that created and rule the world
 - C. Groups of people that occupy different ranks or levels in society
 - D. The system that a community uses to produce and distribute goods and services
35. **What first allowed early humans to be less nomadic?**
- A. Fishing
 - B. Irrigation
 - C. Migration
 - D. Agriculture
36. **What does Catalhoyuk mean or translate to?**
- A. Old town
 - B. Land of the rivers
 - C. Modern Mansions
 - D. Forked Mound
37. **How did dividing up the work help communities produce more to meet their needs?**
- A. Everybody did the same job.
 - B. Most people enjoyed working alone.
 - C. Villagers learned to make stone tools.
 - D. Individuals developed a variety of skills.
38. **What does the word domesticate mean?**
- A. to change the growth of plants or behavior of animals in ways that are useful to humans
 - B. people spend most of their time working at a single job or craft
 - C. The system that a community uses to produce and distribute goods and services
 - D. supply of something that can be used as needed
39. **Which one of the following is not a criteria of successfully domesticating animals?**
- A. Small enough to feed and contain
 - B. The animal needs to be colorful
 - C. Must produce offspring
 - D. none of above
40. **During the Neolithic Age, the population was able to grow because ____**
- A. many animals that were dangerous to humans died off.
 - B. hunters developed better techniques for hunting.
 - C. humans learned which plants were safe to eat.
 - D. people had a surplus of food.
41. **Taming an animal for use by humans is called**
- A. specialization
 - B. domestication
 - C. technology
 - D. teaching
42. **As food became more abundant, fewer people were needed in the fields. As a result, some people**
- A. went back to hunting and gathering
 - B. started domesticating animals
 - C. moved out of the villages
 - D. became artists or skilled workers
43. **How did domestication of plants and animals affect early man?**
- A. They could have pets
 - B. They could visit distant places

- C. They could hunt and gather
D. They could stay in one place for a long time
44. **What does the word revolution mean?**
A. to change the growth of plants or behavior of animals in ways that are useful to humans
B. more than people need to feed themselves
C. a complete change in ways of thinking, working, or living
D. people spend most of their time working at a single job or craft
45. **Which one of these options did hunter-gatherers and settled farmers both have in common?**
A. Built cities to protect their surplus of food
B. Different roles for men and women
C. Would scare animals off cliffs to eat
D. Figured out how to make fire and tools out of a type of stone called flint
46. **What is one of the most important discoveries of early man?**
A. Fire
B. Wheel
C. Electricity
D. Bones
47. **As villages grew, they developed permanent homes and the concept of ownership. Labor became increasingly divided, and larger projects needed to be coordinated by leaders. What CENTRAL idea does this evidence support?**
A. The growth of farming communities meant that people lived closer together.
B. The growth of early villages and cities led to less equality between men and women.
C. The development of wealth changed the social structure of early villages and cities.
D. none of above
48. **Which of these dates was the longest ago?**
A. 2019 A.D.
B. 2000 B.C.
C. 1990 B.C.E
D. 2100 B.C.
49. **Nomads had no ____**
A. food
B. family
C. settled home
D. none of above
50. **Where did the first civilizations rise?**
A. near rivers
B. near mountains
C. North America
D. Near a sea
51. **What does the word resource mean?**
A. Groups of people that occupy different ranks or levels in society
B. supply of something that can be used as needed
C. more than people need to feed themselves
D. to change the growth of plants or behavior of animals in ways that are useful to humans
52. **Why was the discovery of bronze an important breakthrough at the end of the Neolithic Age?**
A. Bronze was stronger than copper.
B. Bronze was more affordable than copper.
C. Bronze was more abundant than copper.

- D. Bronze was more attractive than copper.
53. **Which statement best explains the greatest effect the agricultural revolution had on early societies?**
- A. The population steadily decreased.
 - B. People were not able to specialize in just one trade.
 - C. Agriculture made it harder to find food.
 - D. The population steadily increased.
54. **Which best describes the nomadic lifestyle of the Paleolithic people?**
- A. They lived in large villages, where they raised crops and livestock.
 - B. They migrated, or moved, from place to place
 - C. They stayed in one place, living in sturdy homes.
 - D. They lived in small villages and farmed the land.
55. **What was a negative effect of Neolithic people settling down?**
- A. The gods they worshipped became angry they no longer hunted in their honor
 - B. The people ended up with more food than they knew what to do with
 - C. Improper care for the land and population growth led to deforestation and abandoned settlements
 - D. They weren't able to easily keep shelter during bad weather
56. **What is the approximate age of the ancient farming village of Catalhyuk?**
- A. 1920
 - B. 8, 000 to 10, 000 years ago
 - C. 1738
 - D. 5, 000 to 7, 000 years ago
57. **Neolithic villages grew larger and made it necessary to develop**
- A. art
 - B. tools for hunting
 - C. written language
 - D. a system of government (Monarchy)
58. **Which is an example of an artifact?**
- A. A Tyrannosaurus Rex
 - B. Skeleton of Lucy
 - C. Stone tools and pieces of pottery
 - D. a bone buried deep in the ground
59. **What does the word specialization mean?**
- A. people spend most of their time working at a single job or craft
 - B. The system that a community uses to produce and distribute goods and services
 - C. Set of shared beliefs about supernatural powers that created and rule the world
 - D. a complete change in ways of thinking, working, or living
60. **Becoming an expert in a specific job or skill is considered?**
- A. domestication
 - B. systematic agriculture
 - C. specialization
 - D. monarchy
61. **Paleolithic people moved from place to place in search of food. This is why they are called ____**
- A. Farmers
 - B. Settlers
 - C. Nomads
 - D. Immigrants

62. **Which statement best explains the greatest effect the emergence of agriculture had on early societies?**
- A. The population steadily decreased.
 - B. People were not able to specialize in just one trade.
 - C. Agriculture made it harder to find food.
 - D. The population steadily increased.
63. **The process of changing plants and animals for better use is called ____**
- A. migration
 - B. agriculture
 - C. domestication
 - D. taming
64. **What is the meaning of catalhyuk translated to?**
- A. closed quarters
 - B. bird on a tree
 - C. Impenetrable city
 - D. Forked mound
65. **How do we know about Paleolithic and neolithic humans?**
- A. Archaeological sites like Jericho
 - B. Cave paintings like Lascaux
 - C. Ancient mummies like Otzi
 - D. All of the Above
66. **Which sentence from the article would be MOST important to include in a summary of the article?**
- A. Farming allowed humans to begin to store extra food, leaving more time for other activities.
 - B. Cities and states evolved over a long period of human history.
 - C. Hard volcanic glass was used by villagers to create sharp cutting tools.
 - D. Humans lived in smaller areas, which allowed diseases to spread much faster.
67. **What was the major development of the Neolithic Age?**
- A. Specialization of labor
 - B. Beginning of trade
 - C. Systematic agriculture
 - D. Use of new stone tools
68. **What is another word for farming?**
- A. Domestication
 - B. Irrigation
 - C. Agriculture
 - D. Farming
69. **Which of these is a fossil?**
- A. Pottery
 - B. Bone
 - C. Arrowhead
 - D. Jewelry
70. **Special buildings called ____ were built as holy places as religion started to play more of a role.**
- A. Shrines
 - B. Temples
 - C. Monuments
 - D. Taverns
71. **What was one effect of having a better food supply?**
- A. people were healthier
 - B. people had fewer children
 - C. people did not live long
 - D. all of the above
72. **The era also known as the "Old Stone Age".**
- A. Mesozoic Era
 - B. Mesolithic Era
 - C. Neolithic Era
 - D. Paleolithic Era

73. **How long ago did the ancient farming settlement of Catalhoyuk exist?**

A. 8, 0000 to 10, 000 years ago

B. 20 to 40 years ago

C. 5, 000 to 7, 000 years ago

D. five to Seven million years ago

1.27 Managerial Agriculture

1. **Agricultural managers need, at the bare minimum, what kind of degree in order to obtain their first job in that role?**

A. Associates Degree

B. Doctorates Degree

C. Bachelors Degree

D. Masters Degree

2. **Knowledge of which of the following types of funding is required for an agricultural management position?**

A. Crowd funding

B. Micro loans

C. Vertical integration

D. Government grants

3. **Agricultural managers need to possess which of the following skills?**

A. The ability to start a business from scratch.

B. Understanding of the different kinds of economies in the world.

C. Vast knowledge of equipment, shipping and storage of products.

D. A masters degree in business administration.

4. **Many agricultural management positions require, at minimum, which of the following?**

A. Associate's degree

B. Doctorate

C. Apprenticeship

D. Probationary Period

5. **An agricultural manager position requires all of the following EXCEPT which one?**

A. Experience in active seasonal farming

B. Classroom knowledge on agricultural topics

C. The ability to understand government grant programs

D. Success and wealth in business and investments

6. **Agricultural managers/supervisors need to be aware of the types of which of the following, that is available to them through the federal government?**

A. Food stamps

B. Healthcare Plans

C. Grants

D. Health Insurance

7. **Which of the following is necessary to gain comprehensive knowledge in agronomy and biology and become an expert in agriculture?**

A. Apprenticeship

B. Bachelor's degree

C. Vocational class

D. Soil samples

8. **Management positions in agriculture are all of the following EXCEPT which one?**

A. Difficult

B. Time-intensive

C. Entry-level

D. Knowledge-based

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9. **An agricultural manager candidate will possess proper knowledge in the field from which of the following experiences?**
- A. High school agricultural courses
 - B. Hands-on experience on a farm
 - C. Membership in the National FFA Organization
 - D. A Doctoral degree college program
10. **Which of the following is one of the actual requirements in order to obtain a management position in agriculture?**
- A. Passion
 - B. Experience
 - C. Interest
 - D. Agility
11. **An agricultural manager requires work different from that of a normal farmer in which of the following ways?**
- A. being able to run farm equipment
 - B. being able to harvest crops
 - C. being able to obtain legal information on grant programs
 - D. being able to raise livestock.
12. **Which of the following must an agricultural manager know to ensure they are operating within legal bounds?**
- A. Government regulations
 - B. Weather patterns
 - C. Geological surveys
 - D. Energy conservation
13. **Agricultural knowledge mainly comes from which of the following?**
- A. Word of mouth
 - B. Trade publications
 - C. Hands-on experience
 - D. Additional schooling
14. **Grants from the government available to Agricultural managers/supervisors in the case of what?**
- A. Educational needs
 - B. Natural disasters such as extreme drought or floods
 - C. Medical emergencies
 - D. Health Insurance
15. **What kind of farms require greater management and supervision due to the sheer size of production?**
- A. Boutique
 - B. Farm-To-Table
 - C. Industrial
 - D. Personal

1.28 AGRICULTURE AND ENVIRONMENT

1. **Which of the following is NOT a major nutrient needed by humans?**
- A. carbohydrates
 - B. lipids/fats
 - C. amino acids
 - D. vitamins
2. **What texture of soil would be best for high aeration?**
- A. Sand
 - B. Silt
 - C. Clay
 - D. none of above
3. **Which layer in the soil will have the greatest concentration of organic nutrients?**
- A. A
 - B. B

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- C. C
D. O
4. **What is the advantage of using Crop Rotation**
A. It helps the farmers make more money
B. It lets the nutrients in the soil replenish
C. Keeps the land in good condition
D. All of the above
5. **In what ways we can waste less food?**
A. We should buy food, which we don't like eating e.g. broccoli.
B. We should drink more water instead of eating meals.
C. We should think wisely before meal if we are really capable for eating it.
D. We should buy a bigger fridge.
6. **All of the following are negative impacts of food production EXCEPT**
A. increased erosion
B. air pollution from fossil fuels
C. bioaccumulation of pesticides
D. lower death rates
7. **Community Supported Agriculture is a program that does what?**
A. allows people to sign up for a season's worth of locally grown produce.
B. when the entire community turns out to harvest a crop
C. there is no such thing
D. When the community purchases all of its produce from one store
8. **Monocultures require more pesticides and herbicides because ____**
A. they tend to attract more insects and weeds than other crop cultures.
B. they risk total total crop annihilation if infested by a pest insect or plant.
C. they are so genetically modified that they resist pesticides and herbicides.
D. they require more nutrients and water than traditional crop cultures.
9. **Scientists have inserted a gene for the production of vitamin A into rice. This practice of changing the genetic structure of agricultural products to improve desirable traits is known as**
A. Genetic Engineering.
B. Transmodification.
C. Selective Breeding.
D. Natural Selection.
10. **Most of the corn in the U.S. goes towards**
A. export to other countries
B. feeding cattle
C. for biofuels
D. domestic food production
11. **How can we prevent food wasting?**
A. We should buy more fast-food, we don't have to prepare it at home.
B. We can eat more spicy food, it is so delicious!
C. We mustn't throw away food which can be reused.
D. We should eat in restaurants, so not to throw away food at home.
12. **Land used to raise food and fiber crops for human use is**
A. cropland
B. range land
C. aquaculture
D. pollinators

13. **You are looking at a box of Miracle-Gro at the hardware store. It is made from potash, which is mined from the ground, and ammonium nitrate, which is chemically manufactured. What type of fertilizer is it?**
- A. Inorganic
 - B. Organic - manure
 - C. Organic - compost
 - D. none of above
14. **Which one of the following food systems provides the majority of our food?**
- A. Aquaculture
 - B. Rangelands
 - C. CAFO's
 - D. Croplands (or Farmlands like the movie said)
15. **The process by which igneous rocks are formed ____**
- A. heat and pressure
 - B. melting and cooling
 - C. weathering and erosion
 - D. none of above
16. **Mechanization of agriculture is advantageous for all of the following reasons EXCEPT**
- A. Machines encourage the growth of several types of plants in a single farm.
 - B. There is an economic advantage if fuel prices are low.
 - C. There is an economic advantage if cost of labor is high.
 - D. Staple crops such as beans and corn are more economically harvestable.
17. **Type of commercial agriculture that focuses on raising large numbers of cattle or sheep for meat.**
- A. pastoralism
 - B. grain farming
 - C. vegetative agriculture
 - D. livestock ranching
18. **Which of the following can result from soils that are too acidic?**
- A. they create acid-mine drainage
 - B. they can leach soluble heavy metals
 - C. they can adversely affect aquatic life
 - D. they can cause neurological damage in unborn children
19. **What is a rural area?**
- A. Land covered by buildings, roads, and suburbia
 - B. Land covered by all parking lots
 - C. Land covered with mostly water
 - D. Land covered with forests, crops, etc
20. **What is the primary benefit the process of terracing crops provides?**
- A. more crops due to more space
 - B. less soil erosion due to less surface runoff
 - C. less water needed for irrigation
 - D. farming with machines on steep hill slopes can take place
21. **Modern (2nd gen) pesticides have many advantages ____ NOT including**
- A. saving human lives through their use
 - B. eliminating genetic resistance
 - C. increasing agricultural yields
 - D. fast-acting results
22. **Type and amount of food a person eats**
- A. Diet
 - B. Famine
 - C. Malnutrition
 - D. Yield

23. **The Great Plains Shelterbelt was one of the public works programs instituted by Franklin Delano Roosevelt following the dust bowl. This is an massive example of**
- A. Terracing
 - B. Contour plowing
 - C. Strip cropping
 - D. A windbreak
24. **Organic agriculture**
- A. uses synthetic pesticides
 - B. may use genetically engineered crops
 - C. uses synthetic fertilizers
 - D. often requires cost mark-up to consumers due to increased labor costs
25. **Given the “Clean Fifteen” and “Dirty Dozen” lists we looked at, which produce would you expect to have the greatest amount of pesticide residue?**
- A. Cantaloupe
 - B. Grapefruit
 - C. Avocados
 - D. Apples
26. **IPM is especially successful in developing countries because**
- A. the availability of high quality pesticides in developing countries is spotty at best.
 - B. high-input industrial farming is not feasible because farmers lack financial resources.
 - C. IPM resembles traditional farming techniques so closely.
 - D. developed nations often offer subsidies to farmers using IPM techniques.
27. **Worldwide, the largest component of the human diet is**
- A. grain products.
 - B. meat products.
 - C. dairy products.
 - D. raw and processed sugars.
28. **By planting different crops each growing season in a field helps the soil from becoming depleted of nutrients. This is called?**
- A. Crop Exlosion
 - B. Crop Irrigation
 - C. Plant Fertilization
 - D. Crop Rotation
29. **Which of the following is true of land-use plans?**
- A. Developers must prepare detailed reports assessing the environmental impact of their projects.
 - B. The public often has input in land-use plans.
 - C. Projects in environmentally sensitive areas may be hotly debated.
 - D. All choices are correct.
30. **China and India produce how much of the worlds total rice?**
- A. 80%
 - B. 70%
 - C. 60%
 - D. 50%
31. **The timber industry classifies forestlands into three categories called**
- A. oftwoods, hardwoods, and mixed woods
 - B. pine, redwood, and mixed.
 - C. evergreen, deciduous, and mixed.
 - D. virgin forest, native forest, and tree farms.

32. **Commercial Gardening and Fruit Farming typically use what type of labor?**
- A. People with a college degree
 - B. American citizens
 - C. Migrant Workers
 - D. Immigrants
33. **Soil is important for all the following reasons except.**
- A. To anchor plant roots
 - B. Air for respiration of the animal lungs
 - C. Home and habitat for micro and macro organisms
 - D. Water for plant growth
34. **What is a CAFO (confined animal feeding operation)?**
- A. A place where animals eat food in the winter months
 - B. An operation with more than 1,000 animals at a time
 - C. A small Feedlot that has 0 to 1,000 animals
 - D. None of the above
35. **What is the term for the amount of food produced in an area?**
- A. arable
 - B. efficiency
 - C. yield
 - D. soil conservation
36. **What is wasted when food is thrown out?**
- A. land
 - B. water
 - C. labor
 - D. all the above
37. **No fishing zones are designed to fix ____ of fish.**
- A. overharvesting
 - B. excessive aquaculture
 - C. overpopulation
 - D. contamination
38. **Grain farming primarily creates food for ____**
- A. Humans
 - B. Animals
 - C. Oil
 - D. None of the above
39. **Over irrigation of shallow rooted plants could cause the water table to rise bringing with it dissolved**
- A. salt
 - B. limestone
 - C. soil
 - D. nutrients
40. **What did NOT lead to the increase in urbanization?**
- A. Population decrease
 - B. Population growth
 - C. Industrialization
 - D. Moving from farming to industry
41. **All soil profiles begin as**
- A. weathered bedrock
 - B. thick humus
 - C. unweathered bedrock
 - D. sand, silt, and clay
42. **All of these contribute to famine EXCEPT**
- A. crop failure.
 - B. green revolution.
 - C. unequal distribution of food.
 - D. drought.

43. **The introduction of pesticides, new fertilizers, and irrigation technology aided countries like India and Mexico grow substantially more food to help sustain their growing population. This led to less concern about**
- A. famine
 - B. increased life expectancy
 - C. increased overall health of the populations
 - D. all choices
44. **No-till farming helps to conserve soil fertility because**
- A. remnants of the previous crop are left to slowly decay.
 - B. deep ridges are cut across, not down, the slopes of hills.
 - C. the ground is carefully turned to mix soil nutrients.
 - D. only organic fertilizers and natural pesticides are used.
45. **One alternative to catching fish from the ocean is ____, which is the process of farming fish and other aquatic organisms**
- A. aquaculture
 - B. domesticated
 - C. pesticide
 - D. compost
46. **What is arable land?**
- A. Land that has high salt content
 - B. Land on which crops can be grown
 - C. Land on which crops cannot be grown
 - D. Land that is porous so water drains through slowly
47. **When did farming begin in the Middle East and North Africa?**
- A. about 200, 000 years ago
 - B. about 11, 000 years ago
 - C. about 5, 000 years ago
 - D. about 3, 000 years ago
48. **The US accounts for about what percent of worldwide pesticide use?**
- A. 20
 - B. 33
 - C. 50
 - D. 80
49. **material used for the support and stability of hydroponic plants; includes sand, gravel, peat moss and sawdust**
- A. artificial growing medium
 - B. soil
 - C. potting soil
 - D. clayey loam and humus
50. **Domesticated animals raised to be used on a farm or sold for profit**
- A. Domesticated
 - B. Diet
 - C. Biological pest control
 - D. Livestock
51. **Aquaculture is ____**
- A. The practice of fishing
 - B. The study of the oceans
 - C. The practice of taking care of the ocean by setting fishing limits
 - D. The practice of raising fish and other water dwelling organisms for food
52. **The ____ which took place between the 1920's and 1960's led to great increases in crop yields, especially in the developing world**
- A. Green Machine
 - B. Green Revolution
 - C. Feed the Hungry Campaign
 - D. Agricultural Revolution

53. **A place where raw ingredients are changed into the useful items we need or want; wood into furniture, ore into steel for cars, wheat into bread, and potatoes into chips.**
- A. Natural Resources
 - B. Farm
 - C. Factory
 - D. Store
54. **What is true about organic farming?**
- A. Doesn't actually work
 - B. Meets our food needs now, but won't in the future
 - C. Makes enough food to meet our needs
 - D. Cannot produce enough food to meet our current needs
55. **Which of the following is a benefit of preserving farmland?**
- A. prime locations for home sites
 - B. soil erosion protection
 - C. productive land for growing crops
 - D. a greenbelt for crowded urban areas
56. **Toxins that get passed up the food chain in increasing amounts**
- A. biomagnification
 - B. compaction
 - C. compounding
 - D. non-elimination
57. **One advantage to confined animal feeding operations is their**
- A. efficiency
 - B. pollution
 - C. use of antibiotics
 - D. humane treatment of the animals
58. **The cultivation of a single crop in a given area**
- A. polyculture
 - B. monoculture
 - C. inorganic farming
 - D. organic farming
59. **Increased infections and blindness are associated with ____ deficiency.**
- A. iodine
 - B. carbohydrates
 - C. iron
 - D. vitamin A
60. **Most farms today use synthetic ____ pesticides and herbicides (such as Round-up) to control their biological pests. The problem with these chemicals is that they ____ in the environment.**
- A. Synthetic pesticides | Bioaccumulate
 - B. Botanical pesticides | Bioaccumulate
 - C. Synthetic pesticides | Biodegrade
 - D. Botanical pesticides | Biodegrade
61. **You watch a documentary about an impoverished country near the Sahara desert. Some of the children appear to have swollen stomachs. What malnutrition disorder do they have?**
- A. A goiter
 - B. Anemia
 - C. Kwashiorkor
 - D. Obesity
62. **An organism that produces genes for a trait that is not originally part of its species' gene code/DNA is a**
- A. Genetically Modified Organism (GMO)
 - B. Organic Organism
 - C. Hydroponic
 - D. Monoculture

63. **Even though the Green Revolution had its downsides (need for chemicals and water), the positive was ____**
- A. availability for ALL farmers
 - B. cheaper costs
 - C. higher yields
 - D. tastier grains
64. **What specific nutrient is missing in the diet of these children?**
- A. Carbohydrates
 - B. Proteins
 - C. Iodine
 - D. Salt
65. **What are some reasons deforestation occurs?**
- A. clearing land for agriculture, ranching, and mining
 - B. just wanting to destroy things
 - C. Population moving from rural areas to cities
 - D. to make room for infrastructure
66. **____ is any waste that is a risk to the health of humans or other living things.**
- A. hazardous waste
 - B. politics
 - C. sewage
 - D. water runoff
67. **Which of the following is one problem involved with transferring a farm from one generation to the next?**
- A. A drop of productivity of land of more than 10%.
 - B. Overgrazing and soil erosion.
 - C. There are no problems, just pass it on down.
 - D. Enormous land taxes that must be paid.
68. **What are common plantation farming products?**
- A. Cotton
 - B. Sugarcane
 - C. Coffee
 - D. All of the above
69. **In order for organic farmers to make a profit (and thus be economically sustainable)**
- A. manure must be found in abundance in close proximity to the farm.
 - B. the government must continue to provide an "organic" subsidy.
 - C. conventional farmers must pay a tax to subsidize the organic farmers.
 - D. consumers must be willing to pay higher costs associated with organic produce.
70. **What was the positive effect of the green revolution?**
- A. excess use of fertilizer
 - B. excess use of pesticides
 - C. profit for small farms
 - D. high yields of grains
71. **Alternatives to using pesticides include all of these, EXCEPT:**
- A. Planting monocultures to attract pests
 - B. Trap cropping
 - C. Using pheromones to lure pests away from crop
 - D. Using mechanical bug-vacs to remove pests
72. **Desertification usually occurs when**
- A. humans leave an area alone to undergo secondary succession
 - B. soil productivity decreases due to drought and poor farming practices

- C. winds carry large amounts of sand from nearby deserts
- D. irrigation water is continually used in arid regions of the country
73. **The layer where minerals that were leached out of layers above accumulate**
- A. A horizon
- B. B horizon
- C. E horizon
- D. O horizon
74. **A large area of cropland seeded with one crop is a(n)**
- A. monoculture
- B. polyculture
- C. organic practice
- D. traditional farming technique
75. **What percent of soil is "mineral matter"?**
- A. 5%
- B. 25%
- C. 45%
- D. 50%
76. **What does "reduce" mean?**
- A. use more
- B. use less
- C. make new things
- D. save the Earth
77. **What is the general relationship between meat consumption and affluence?**
- A. More affluent nations tend to consume more meat products.
- B. More affluent nations tend to be net exporters of meat products.
- C. Less affluent nations tend to consume more meat because poultry are so easy to raise.
- D. Less affluent nations tend to consume less meat because meat is thought of as a trading commodity.
78. **What type of agriculture is carried out for survival-with few or no crops available for sale? Its usually organic, simply for lack of money to buy industrial inputs such as fertilizer, pesticides, or genetically modified seeds.**
- A. Sustainable agriculture
- B. Subsistence agriculture
- C. LDC agriculture
- D. Slash and Burn agriculture
79. **What are impacts of overgrazing?**
- A. pollution and use of more resources
- B. loss of biodiversity, loss of native top-soil, desertification
- C. more people than the infrastructure can support
- D. creation of heat islands
80. **Leachate is a substance that**
- A. is produced in a compost pile
- B. is a byproduct of bacterial digestion
- C. is produced by incinerators
- D. contains dissolved toxic chemicals
81. **Which of the following is NOT a key component of organic agriculture?**
- A. Using genetically modified seeds.
- B. Applying manure as fertilizer.
- C. Integrated Pest Management
- D. Crop Rotation
82. **Land that contains relatively few people and large areas of open space is considered**
- A. rural.
- B. urban.
- C. suburban.
- D. rangelands.

83. **A condition that is caused by not enough iodine in diet**
- A. Anemia
 - B. Goiter
 - C. Kwashiorkor
 - D. none of above
84. **If fish are caught faster than they can breed the population will ____**
- A. increase
 - B. stay the same
 - C. emigrate
 - D. decrease
85. **The layer of soil that contains lots of organic matter and nutrients is called the ____, and is also known as topsoil.**
- A. O Horizon
 - B. A Horizon
 - C. B Horizon
 - D. C Horizon
86. **Which of the following would PREVENT soil erosion on a farm?**
- A. over-grazing
 - B. deforestation
 - C. plowing
 - D. crop rotations
87. **Why might an insect population grow over time even after pesticides are applied monthly?**
- A. an increase in the population of insect predators
 - B. increased soil erosion
 - C. the survival of increasing numbers of insects resistant to the pesticide
 - D. an increase in soil and nutrients and soil microorganisms
88. **When you eat eggs, your eggs most likely came from what type of chickens?**
- A. A laying hen
 - B. A broiler hen
 - C. A dairy hen
 - D. A mamma hen
89. **How many components is soil made up of?**
- A. 4
 - B. 2
 - C. 3
 - D. 1
90. **Which sustainable practice utilizes techniques to delay the biological aging of food while maintaining its quality?**
- A. Genetic Engineering
 - B. Waste utilization
 - C. Post-harvest management
 - D. Integrated pest management
91. **Which is NOT a strategy to increase a city's sustainability**
- A. reduce reliance on fossil fuels
 - B. increase/improve greenspace
 - C. increase recycling rates
 - D. build more shopping malls
92. **Which of the following is a leading country in Aquaculture?**
- A. Russia
 - B. Japan
 - C. China
 - D. Brazil
93. **Aquaculture is:**
- A. The way aquatic organisms connect and interact with each other
 - B. The raising of aquatic organisms for human use or consumption

- C. How humans interact with aquatic organisms
D. none of above
94. **Which of the following is NOT a sustainable method of agriculture?**
A. no-till agriculture
B. intercropping
C. shifting cultivation
D. agroforestry
95. **What type of irrigation is shown above?**
A. Furrow
B. Center-pivot
C. Drip
D. none of above
96. **Typically, most of the energy subsidies in modern agriculture are in the form of**
A. solar power.
B. hydroelectric power.
C. nuclear power.
D. fossil fuels.
97. **The term malnutrition refers to**
A. A diet lacking key nutrients.
B. A diet with not enough calories.
C. A diet with too much protein.
D. A diet consisting of more than 2, 000 calories per day.
98. **In 1960 developed countries produced ____ of the worlds grains and in 2010 they produced ____**
A. 1/4, 3/4
B. 1/3, 1/2
C. 1/6, 1/2
D. 1/4, 1/2
99. **The development of dangerous strains of bacteria is a result of which agricultural practice ____**
A. using herbicides in large scale grain farming
B. growing crops that are genetically modified for increased yields
C. increasing the use of legumes into crop rotation protocols
D. incorporating the use of antibiotics into the feeding regimes of densely concentrated livestock
100. **Genetic engineering of food crops**
A. is only done on corn
B. is only done on soy
C. is only done on certain things
D. Is done with Round-Up and other pesticides
101. **Which of the following most effectively allows forests to recover from tree harvesting?**
A. cutting only medium-sized or mature trees
B. cutting all of the trees and then replanting the area with seedlings
C. allowing the forest to reseed itself
D. cutting only young trees and then replacing them with seedlings
102. **Urban sprawl increases carbon dioxide emissions by**
A. generating more factories.
B. increasing the need to drive.
C. resulting in more tree growth.
D. expanding the use of public transportation.
103. **Mature soil forms**
A. very rapidly
B. over thousands of years

- C. within 2-3 years
D. never
104. **Which of the following is not a condition necessary for germination?**
A. Water
B. Oxygen
C. Warmth
D. Soil
105. **Monocropping has a number of disadvantages. These include all of the following EXCEPT**
A. erosion due to exposure of large areas of soil during planting.
B. Nutrition and pesticide needs should be similar throughout a single crop.
C. Pests are more likely to attack a monocrop due to the high concentration.
D. Loss of habitat for natural pest predators.
106. **The cows and chickens we eat today are considered ____, which means to breed or manage organisms for human use.**
A. erosion
B. domesticated
C. pesticide
D. compost
107. **What is genetic engineering?**
A. Manipulation/addition of genes
B. Naturally breeding two animals with desired traits
C. Cross-pollinating two crops
D. Harvesting stem cells
108. **Which of the following is NOT an example of a biological pest control?**
A. Use of pathogens to control pests
B. Natural plant defenses
C. Use of insecticides to eliminate pests
D. disruption of pest breeding
109. **Agroforestry/Alley cropping**
A. Grows crops perpendicular to the slope of the land
B. Plants trees between rows of crops
C. Growing two or more crops in proximity
D. Grow different crops each season
110. **Which soil particle is the SMALLEST?**
A. sand
B. silt
C. clay
D. they are all the same size
111. **When analyzing food, humans generally seek a balance of ____?**
A. calories, carbohydrates, protein and fat
B. vitamins, calories, minerals and iron
C. carbohydrates, sugars, and vitamins
D. vitamins, carbohydrates and calories
112. **What is Organic food?**
A. Food that is grown from GMO's, that uses little fertilizer
B. Food that is produced by humans
C. Food produced without synthetics
D. Food that only uses pesticides
113. **Aquaculture is the raising of ____ for human consumption.**
A. ruminants
B. poultry
C. aquatic organisms
D. plants

114. **The concentration of a toxin that will result in the loss of 50% of a population**
- A. LD50
 - B. CAFO
 - C. NH4
 - D. TP50
115. **Where do most of the people in the US live?**
- A. Urban areas
 - B. Rural areas
 - C. Wildlife preserves
 - D. Remote areas
116. **Microorganisms are unable to break down plastics because plastics**
- A. are made from oil
 - B. are too abundant
 - C. are made of unknown elements
 - D. do not occur in nature
117. **What is the spring wheat belt?**
- A. It is part of North America that plants grains in the spring
 - B. It is part of North America that picks grains in the spring
 - C. It is a part of North America that always is warm
 - D. None of the above
118. **Which organisms contain DNA?**
- A. Only plants
 - B. Both plants and animals
 - C. Only animals
 - D. Neither plants nor animals
119. **What is a seed?**
- A. An embryo with a young plant inside
 - B. A fruit
 - C. A plant
 - D. A new plant
120. **Commercial agriculture is ____**
- A. A form of agriculture that is controlled by a corporation
 - B. Producing food for advertisements
 - C. Producing food to support your family and local community
 - D. Producing food to sell to the public, and create a profit
121. **The people of the Sahara Desert practice**
- A. Pastoral Nomadism
 - B. Slash-and-burn
 - C. Shifting agriculture
 - D. Crop Rotation
122. **We call it ____ when wind and water move soil or rock from one place to another**
- A. erosion
 - B. domesticated
 - C. pesticide
 - D. compost
123. **Which of the following is the largest driver of deforestation?**
- A. Beef
 - B. Palm oil
 - C. Wheat
 - D. Wood
124. **Which of the following best describes the Green Revolution?**
- A. An international effort to stop the construction of nuclear power plants
 - B. A group whose goal is to improve how nations affect the environment
 - C. Increasing the yield of farmland by using more fertilizer, better irrigation, and faster growing crops
 - D. A method of getting more people to recycle paper and cardboard

125. **Which is of the following is not an agricultural school in Jamaica?**
- A. College of Agriculture Science and Education
 - B. Knockalva Poly-Technic College
 - C. Ebony Gardens H.E.A.R.T. Academy
 - D. Green Island High School
126. **Technology in which genes from one organism are placed in another organism**
- A. Compost
 - B. Famine
 - C. Genetic engineering
 - D. Persistent
127. **If you do not consume enough carbohydrates, proteins, and lipids you will suffer from which of the following disorders?**
- A. famine
 - B. hunger
 - C. anger
 - D. malnutrition
128. **Which of the following best describes a genetically modified organism (GMO)?**
- A. An organism that has been selectively bred for the best traits
 - B. An organism that contains foreign DNA
 - C. An organism that is produced after exposure to a mutagen.
 - D. An organism that has been cloned
129. **When one person's diet doesn't have enough nutrients or Calories, they suffer from ____**
- A. famine
 - B. malnutrition
 - C. anemia
 - D. scurvy
130. **Which of the following describes a fundamental characteristic of the Green Revolution?**
- A. The application of higher levels of organic fertilizers.
 - B. The addition of calorie, fat, and fiber content to food labels.
 - C. The development of new strains of crops with higher yields.
 - D. Deforestation to provide crops with additional sunlight.
131. **What percentage of the world's freshwater is used for agriculture?**
- A. 30
 - B. 50
 - C. 70
 - D. 90
132. **Why is leachate dangerous?**
- A. It has toxic fumes
 - B. It can leak into our water supply
 - C. It can't be processed
 - D. none of above
133. **Overgrazing of public land is an example of ____**
- A. rule of 70
 - B. eminent domain
 - C. tragedy of the commons
 - D. manifest of destiny
134. **Commercial agriculture practiced in the tropics is called**
- A. Intensive subsistence agriculture
 - B. plantation agriculture
 - C. shifting cultivation
 - D. paddy rice farming

135. **The pesticide DDT has which of the following properties that make it dangerous?**
- A. It persists in the environment
 - B. It is easily stored in the tissues of living things
 - C. It moves up the food chain, increasing in concentration at the top
 - D. all of these
136. **If you wanted to buy meat that does not contain antibiotics or was not fed genetically modified plants, which of the following labels would you look for when shopping?**
- A. Organic
 - B. Free Range
 - C. Cage Free
 - D. Certified Humane
137. **What is advantage to using Mix Crop and Livestock Farming?**
- A. Breaks up the workload and keeps a steady income
 - B. Farmers get to relax during the winter season, and rest
 - C. Farmers get to make a large amount of money in the summer
 - D. None of the above
138. **Which of the following is a positive effect of fertilizer use**
- A. Groundwater contamination
 - B. Increased nutritional properties
 - C. Overfertilization
 - D. Runoff/ Erosion
139. **This is still widely debated among scientists.**
- A. Meat production
 - B. How to grow corn
 - C. Malnutrition in the states
 - D. Genetic Engineering
140. **The upper layer of soils that contains organic material, rocks, water, and air.**
- A. surface layer
 - B. topsoil
 - C. bottom soil
 - D. topdirt
141. **Which of these would be least likely to affect water holding capacity of soil?**
- A. humus
 - B. pesticide
 - C. sand
 - D. clay
142. **The process by which sedimentary rocks are formed ____**
- A. heat and pressure
 - B. erosion and deposition
 - C. melting and cooling
 - D. none of above
143. **Farming practices like plowing, irrigation, and over farming/grazing lead to loss of topsoil through ____**
- A. contour plowing
 - B. lying fallow
 - C. leeching
 - D. erosion
144. **What factors likely caused the population around Mesopotamia and Egypt to begin farming?**
- A. Climate change and competition for resources
 - B. Use of irrigation and the ice ages
 - C. A nomadic lifestyle and use of solar power
 - D. Extinction of game species and control of fire

145. **Agroforestry provides which of the following benefits?**
- A. trees provide windbreaks reducing erosion
 - B. trees may provide fruit and firewood
 - C. tree roots hold the soil in place reducing erosion
 - D. all of these
146. **Using machines, irrigation sprinklers, and chemical fertilizers are all examples of**
- A. Traditional farming
 - B. Subsistence farming
 - C. Modern farming
 - D. none of above
147. **Which of these would have the greater amount of humus?**
- A. topsoil
 - B. subsoil
 - C. bedrock
 - D. E horizon
148. **Chemicals that remain in the environment for a long time are described as being this**
- A. Compost
 - B. Famine
 - C. Genetic engineering
 - D. Persistent
149. **Biotechnology is referred to as**
- A. Genetic engineering
 - B. Seed agriculture
 - C. Double-cropping
 - D. Vegetative Planting
150. **One example of organic fertilizer is ____ which is made of organic matter that is decomposed by bacteria and fungi**
- A. erosion
 - B. domesticated
 - C. pesticide
 - D. compost
151. **Which of the following best describes IPM?**
- A. Spraying broad-spectrum chemical pesticides as the first line of defense
 - B. Complete elimination of all chemical pesticides
 - C. Implementing a variety of cultivation and biological techniques and only spraying pesticides as a last resort
 - D. Utilizing only trap cropping and crop rotation
152. **This system of planting crops on hillsides to protect the soil is common in parts of South East Asia and in the Mediterranean region.**
- A. ridge tillage
 - B. pastoral nomadism
 - C. sustainable agriculture
 - D. subsistence agriculture
153. **Which of the following categorical groups would require the largest caloric intake?**
- A. Young Men
 - B. Young Ladies
 - C. Infant Males
 - D. Infant Females
154. **What was Von Thunen's Formula?**
- A. Profit = Market Price/Production Cost
 - B. Profit = Production Costs - Market Price
 - C. Profit = Market Price - Production Costs
 - D. Profit = Rent from land - transportation

155. **How does our demand for beef contribute to deforestation in Latin America?**
- A. The need for more land to grow feed crops for cows
 - B. The need for more trees to build barns
 - C. The need for larger CAFO's
 - D. We need a place to dispose of the large amounts of cow manure (poo)
156. **Which of the following best describes industrialized agriculture?**
- A. Consumes large amounts of fossil fuels, pesticides, and water
 - B. Uses human labor and draft animals to grow crops
 - C. Rows of crop plants are interspersed with rows of trees
 - D. Uses little water or fossil fuels; relies on human labor
157. **Which is most similar to intercropping?**
- A. contour plowing
 - B. agroforestry
 - C. no-till agriculture
 - D. integrated pest management
158. **Which is NOT an advantage of synthetic fertilizers?**
- A. Ease of application
 - B. Highly adjustable nutrient content
 - C. Bioavailability of nutrients
 - D. Fewer nutrient runoff problems
159. **What is food biotechnology?**
- A. Adding chemicals to foods to preserve them.
 - B. Making synthetic foods using artificial, man-made proteins.
 - C. Inserting a gene with a beneficial trait into a plant cell.
 - D. Taking immature plants and adding steroids to make them grow bigger and stronger.
160. **Farms that grow organic crops are not allowed to use ____**
- A. Botanical pesticides
 - B. Synthetic fertilizers and insecticides
 - C. Compost and manure
 - D. Irrigation
161. **Which of the following are benefits of perennial plants EXCEPT ____**
- A. Reduced erosion due to less tilling
 - B. Less need to disturb soil
 - C. Reduced weeds
 - D. Reduced organic matter loss
162. **An extreme example of over use of the land coupled with a severe drought was known as**
- A. the Dust Bowl
 - B. the Cabbage Bowl
 - C. the Bole Weevil
 - D. the Bowling Alley
163. **In the US, organic farming is regulated by**
- A. OFPA
 - B. FIFRA
 - C. FSA
 - D. CERCLA
164. **A confined area where large numbers of livestock are raised together is called?**
- A. pasture
 - B. slaughter house
 - C. chicken yard
 - D. feed lot

165. **Hydroponics is a technique for**
- A. growing with minerals
 - B. using manure to grow plants
 - C. soil less growing
 - D. growing plants in air
166. **Products we get from the ocean, from plants or animals that occur naturally without management from humans or from mining.**
- A. Natural Resources
 - B. Farm
 - C. Factory
 - D. Store
167. **Which of the following is likely to minimize soil erosion?**
- A. No till agriculture
 - B. Herbicide use
 - C. High Yield crops
 - D. Deforestation
168. **A condition that is caused by not enough iron in diet**
- A. Anemia
 - B. Goiter
 - C. Kwashiorkor
 - D. none of above
169. **An ADVANTAGE of adding organic fertilizers to soils is that:**
- A. the soil structure is improved.
 - B. nutrients are released quickly.
 - C. leaching of nutrients is increased.
 - D. they are more likely to burn the roots of seedlings.
170. **What is the most efficient type of irrigation?**
- A. Furrow
 - B. Center Pivot
 - C. Drip
 - D. none of above
171. **What was the key to unlocking civilizations?**
- A. Agrarian surpluses
 - B. Coordinating mechanisms
 - C. Tax systems
 - D. Organized religions
172. **What specific nutrient is missing in the diet of children with Kwashiorkor?**
- A. Carbohydrates
 - B. Proteins
 - C. Iodine
 - D. Salt
173. **What type of soil is best for growing plants?**
- A. clay
 - B. sand
 - C. dirt
 - D. loam
174. **What type of Agriculture did Von Thunen's Model state would be in the first ring?**
- A. Mixed Crops
 - B. Dairy/ Gardening
 - C. Grains
 - D. Ranching
175. **Contour farming**
- A. Grows crops perpendicular to the slope of the land
 - B. Plants trees between rows of crops
 - C. Growing two or more crops in proximity
 - D. Grow different crops each season

176. **Any fuel made from biological plant matter rather than fossil fuels.**
- A. gasoline
 - B. biofuel
 - C. diesel
 - D. electric
177. **Grassland soils tend to have**
- A. thick A horizons that supports plant growth
 - B. large O-horizons due to the buildup of detritus, like leaves and needles
 - C. nutrient poor A horizons due to leaching of nutrients
 - D. no soil structure due to frequent fires
178. **Malnutrition over an entire population**
- A. Compost
 - B. Famine
 - C. Genetic engineering
 - D. Persistent
179. **Salinization of soil can be caused by all of the following EXCEPT**
- A. flooding in coastal areas
 - B. rising temperatures
 - C. excessive irrigation
 - D. drip irrigation
180. **Which person is suffering from malnutrition?**
- A. gets 700 calories daily due to lack of food available
 - B. consumes 2000 calories daily
 - C. gets 2500 calories daily, but eats only candy
 - D. gets 2500 calories daily from a well balanced diet
181. **The purpose of herbicides is to kill which of the following?**
- A. insects
 - B. birds
 - C. rodents (rats, mice, and squirrels)
 - D. weeds (unwanted plants)
182. **Dirt differs from soil because it lacks**
- A. water
 - B. air
 - C. humus
 - D. carbon
183. **What is true about pesticides?**
- A. Conventional produce usually has more pesticide residue on them
 - B. Organic produce usually has more pesticide residue on them
 - C. Organic produce uses no pesticides
 - D. Conventional produce uses no pesticides
184. **According to the Environmental Defense Fund, which of the following fish are "best" choices for sustainability? I. Wild Alaskan Salmon II. Chilean Sea Bass III. Farmed Rainbow Trout**
- A. I
 - B. I and II
 - C. II and III
 - D. I and III
185. **What is biomass?**
- A. The total number of animals living on the planet
 - B. The weight of the planet
 - C. The ratio of animal life to plant life
 - D. The total weight of all living things on the planet

186. **Known as selective pesticides because they target only one specific type of insect**
- A. organic pesticide
 - B. inorganic pesticide
 - C. broad-spectrum pesticide
 - D. narrow-spectrum pesticide
187. **Which of these shows the correct order of the soil horizons?**
- A. ORCAB
 - B. ABCDE
 - C. OAEBCR
 - D. ROABC
188. **The green revolution includes all of the following except**
- A. use of machinery for large scale agriculture
 - B. new crop strains with higher yields
 - C. the use of irrigation
 - D. genetically modified organisms
189. **What is the Winter wheat belt?**
- A. A part of North America that can not produce crops
 - B. A part of North America where it is always cold
 - C. A part of North America where you pick in the fall
 - D. A part of North America where you plant in the fall
190. **The production of which of the following is the largest driver of deforestation?**
- A. Beef
 - B. Palm oil
 - C. Wheat
 - D. Wood
191. **Which of the following is a monocotyledonous plant?**
- A. Corn
 - B. Mango
 - C. Cherry
 - D. Cerasee
192. **Refrigerated ships and railroad cars most directly benefited the long-distance transportation to global markets of**
- A. Wheat
 - B. Beef
 - C. Cotton
 - D. Fruit
193. **Soil with the largest pores**
- A. clay
 - B. humus
 - C. sand
 - D. silt
194. **One method that may keep slash and burn farming from being repeated, is to use**
- A. alley cropping
 - B. the army to stop the practice
 - C. monoculture
 - D. more pesticides
195. **A ___ is a waste disposal facility where wastes are put in the ground and covered each day with a layer of dirt, plastic, or both.**
- A. landfill
 - B. incinerator
 - C. compost heap
 - D. aquifer
196. **Which of the following best describes Integrated Pest Management?**

- A. Spraying broad-spectrum chemical pesticides as the first line of defense
- B. Complete elimination of all chemical pesticides
- C. Implementing a variety of cultivation and biological techniques and only spraying pesticides as a last resort
- D. Utilizing only trap cropping and crop rotation
197. **What geographer suggested that certain crops are grown in direct relation to their distance from the market center?**
- A. Johann Heinrich von Thunen
- B. Carl Sauer
- C. Thomas Malthus
- D. Jon Snow
198. **Alternative to use of pesticides is biological pest control . This means**
- A. Use of natural predators to kill the pests
- B. Use of herbal pesticides
- C. Use of mixed cropping
- D. none of above
199. **Which of the following is soil-less media?i. Sphagnum peat mossii. Perliteiii. Vermiculiteiv. Coconut coirv. Coarse sand**
- A. All of the above
- B. None of the above
- C. i&v
- D. i, ii, iii&v
200. **The deep, underlying non-soil materials**
- A. B horizon
- B. E horizon
- C. O horizon
- D. Bedrock
201. **The most fertile soils take ____ years to develop ____ cm.**
- A. 10; 10
- B. 100 ; 10
- C. 1000 ; 1
- D. 100, 000 ; 0.1
202. **Traditional farmers grow several crops on the same plot of land in a practice referred to as**
- A. monoculture
- B. polyculture
- C. aquaculture
- D. slash and burn
203. **The following are benefits of hydroponics EXCEPT**
- A. relatively high yields
- B. low cost
- C. allows for year round operations
- D. efficient use of water
204. **The clay-rich layer left behind after the dust storms of the Dust Bowl.**
- A. A Horizon
- B. B Horizon
- C. C Horizon
- D. none of above
205. **People living in developing countries are much more likely to be dependent on a single plant crop, such as rice, as a source of calories. What macronutrient makes up most of their diet?**
- A. Carbohydrates
- B. Proteins
- C. Fats
- D. About the same amount of all of these macronutrients.

206. **In commercial fishing, catching bycatch decreases**
- A. Target fish populations
 - B. Invasive species
 - C. Nontarget fish populations
 - D. Producers
207. **Where do beef cattle begin their lives?**
- A. In a CAFO
 - B. In an indoor factory farm
 - C. In a small cage
 - D. In an open pasture
208. **One way to prevent colony collapse disorder**
- A. create wildflower buffers near farms and highways
 - B. plant trees near rivers
 - C. heavily use irrigation
 - D. use insecticides
209. **The leaf litter that will enrich the topsoil beneath it makes up the ____ horizon.**
- A. O
 - B. A
 - C. E
 - D. B
210. **Why are seeds important?**
- A. to produce the next generation of plant
 - B. to act as a food store
 - C. the cotyledon contains the first green leaves
 - D. All of the above
211. **Agriculture derives from " ____ " which means (of the land) and " ____ " which means (to till or cultivate).**
- A. "Ager" and "Cultura"
 - B. "agri" and "cultura"
 - C. "cultura" and "Agrarius"
 - D. "cultivate" and "agriculture"
212. **The temperature is best described as**
- A. low
 - B. high
 - C. seasonal
 - D. none of above
213. **Heavy use of irrigation and fertilizer characterizes**
- A. the green revolution
 - B. polyculture
 - C. aquaculture
 - D. the organic movement
214. **A pesticide is ____ if it does not break down easily or quickly in the environment.**
- A. Persistent
 - B. Domesticated
 - C. Compost
 - D. Aquaculture
215. **Which of the soil layers is composed of humus and detritus?**
- A. A horizon
 - B. B horizon
 - C. C horizon
 - D. O horizon
216. **Which trophic level would be able to feed the most people?**
- A. producers
 - B. primary consumers
 - C. secondary consumers
 - D. tertiary consumers
217. **Which is not a reason for the inequality of resource use across the world?**
- A. social reasons
 - B. economic reasons

- C. political reasons
D. religious reasons
218. **Hydroponics is ____**
A. growing with minerals
B. Is illegal
C. soil less growing
D. must have soil
219. **One difference between subsistence and commercial agriculture is that in commercial agriculture**
A. A large % of the population is directly involved in agriculture
B. Less machinery is used
C. More extensive use is made of fertilizers
D. Crop yields are smaller
220. **Widespread malnutrition and starvation in an area due to food shortage**
A. Diet
B. Famine
C. Malnutrition
D. Yield
221. **Pastoral Nomadism can be characterized as**
A. Extensive Subsistence agriculture
B. Livestock Ranching
C. Shifting agriculture
D. Intensive Subsistence agriculture
222. **Salinization occurs when:**
A. Salt is used to kill weeds
B. Salt accumulates in soils
C. Salt water is drawn up into a well
D. Salt is used to make vegetables more edible
223. **Which of these is false about the three staple crops?**
A. They make up the majority (about two-thirds) of human consumption.
B. Corn (maize) is a staple crop.
C. Rice is a staple crop.
D. At least one of the staple crops is an animal product.
224. **The loss of a natural habitat is called?**
A. Habitat development
B. biodiversity
C. Pollution
D. Habitat destruction
225. **____ is the base geological material that will eventually become soil**
A. rock
B. parent
C. water
D. daughter
226. **The idea that land value, will decrease as one gets farther away from central markets is.**
A. Proximity of Location
B. Threshing
C. Von Thunen's Model
D. Bid Rent Theory
227. **Which of these is FALSE about modern (2nd gen) pesticides?**
A. They often kill natural predators
B. They may runoff into nearby aquatic systems
C. They become more effective over time.
D. They promote genetic resistance.
228. **Which statement BEST summarizes the Tragedy of the Commons?**
A. Self-interests outweigh public interest

- B. Public interests outweigh self-interest
- C. It is all right to be selfish as long as you think of the big picture.
- D. It is a tragedy when biodiversity disappears.
229. **The enormous menhaden catch is used entirely to**
- A. Keep people aware of the aquatic problems they're causing
- B. Produce feed and oil as bait for catching other fish
- C. Give fish to the poor
- D. Clear the ocean from all the aquatic pollutants
230. **Most coastal states require shrimping vessels to install TEDs (Turtle Excluder Devices), which allow sea turtles to pass safely through the net, while still allowing the net to catch shrimp. This is an example of**
- A. a bycatch reduction device.
- B. state execution of the Endangered Species Act.
- C. the swampbuster provision of the Farm Bill of 1990.
- D. managing fisheries for collapse.
231. **Top-level predators often eat indirectly absorb toxins as a result of**
- A. bioaccumulation
- B. persistence
- C. overnutrition
- D. biomagnification
232. **Which of the following crops did not emerge in the Americas?**
- A. Beans
- B. Wheat
- C. Corn
- D. Potatoes
233. **The pesticide treadmill occurs when**
- A. constantly increasing doses of pesticides are needed to control pests
- B. predators of the pest species are killed by broadcast spraying
- C. constantly decreasing doses of pesticides are needed to control pests
- D. a virus transfers pesticide resistance to a new species
234. **In the pesticide treadmill, pests are**
- A. Increasing resistance
- B. Decreasing in population
- C. Killing other pests
- D. Migrating to new areas
235. **The most important factor in soil formation is the**
- A. climate
- B. topography
- C. rock type
- D. vegetation type
236. **Which does not result in soil erosion?**
- A. slash and burn agriculture
- B. monocropping
- C. rotating crops
- D. yearly plowing/tilling
237. **Which soil layer is mostly clay?**
- A. topsoil
- B. subsoil
- C. regolith
- D. bedrock
238. **Which of the following is an example of how people use land?**
- A. to harvest wood
- B. to grow crops
- C. to preserve native species
- D. all of the choices are examples of how people use land

239. **The number of different species in an area is referred to as its ____**
- A. population
 - B. genetic diversity
 - C. biodiversity
 - D. Niche diversity
240. **The largest cause of soil erosion and removal of topsoil is/are**
- A. flowing water
 - B. strong wind
 - C. industrial monoculture
 - D. clear-cutting forests
241. **Which type of irrigation results in the greatest amount of water lost to evaporation? I. Flood irrigation II. Drip irrigation III. Low-pressure central pivot irrigation**
- A. I only
 - B. II only
 - C. III only
 - D. II and III
242. **Which soil has the highest water holding capacity?**
- A. Sandy soil
 - B. Clayey soil
 - C. Loam
 - D. None of the above
243. **Which of the following best describes a hormone free chicken?**
- A. Broad-spectrum chemical free chickens
 - B. Chickens with no exposure to chemical pesticides
 - C. Most all of the chickens on the market are hormone free in the first place. It's an advertising gimmick.
 - D. The chickens in Scurry County
244. **Disorder of nutrition resulting from improper balance of nutrients**
- A. Diet
 - B. Famine
 - C. Malnutrition
 - D. Yield
245. **CAFOs make meat more economical, but may have some negative environmental impacts. These include all of the following EXCEPT**
- A. high concentrations of animal waste.
 - B. increase in nutrients in stormwater runoff.
 - C. increase in sediments in stormwater runoff.
 - D. increased use of land area over other types of animal farming.
246. **What form of agriculture integrates produce and animal production?**
- A. aquaponics
 - B. aquaculture
 - C. hydroponics
 - D. none of the above
247. **Which is NOT a benefit of genetically modified organisms?**
- A. Increased profits
 - B. Increased resistance to extreme weather
 - C. Increased crop yield
 - D. Increased genetic diversity
248. **What is soil erosion?**
- A. Building up a thicker layer of soil
 - B. Selling soil for profit
 - C. Wearing away of the top layer of soil
 - D. Sink holes

249. **How much corn, soy, and cotton grown in the US is GMO?**
- A. 100%
 - B. <90%
 - C. <10%
 - D. > 90%
250. **Wet rice is the crop most associated with intensive agriculture for all of the following reasons EXCEPT**
- A. Is usually planted by hand
 - B. Time consuming
 - C. Labor intensive
 - D. Expensive to grow
251. **A friend tells you she's decided not to use pesticides or synthetic chemicals on her farm; she'll rely on composting and biological pest control. She is practicing**
- A. industrial agriculture
 - B. monoculture
 - C. organic agriculture
 - D. sustainable agriculture
252. **Emphasis on use of pesticides, herbicides, and monoculture**
- A. green revolution
 - B. organic agriculture
 - C. nomadic grazing
 - D. subsistence agriculture
253. **Concentrated Animal Feedlot Operations (CAFO's) can BEST be described as ____**
- A. a method of producing meat with more land
 - B. an experiment to test the effectiveness of antibiotics
 - C. the storing of grain as a nutritional supplement
 - D. large numbers of livestock in confined spaces
254. **Which of the following is a method of Aquaculture?**
- A. Fish farming
 - B. Fish modifying
 - C. Fish ranching
 - D. Both (a) and (c)
255. **Which would increase the likelihood of pesticide resistance?**
- A. An insect has only one generation per year.
 - B. Continual use of the same pesticides or pesticides from the same chemical class.
 - C. Applying a pesticide that has little or no residual effect.
 - D. Limiting the number of pesticide applications.
256. **Erosion is a danger whenever the soil is**
- A. covered with grass
 - B. bare and exposed to wind and rain
 - C. plowed along the contour of the land
 - D. covered by forest
257. **From what sources do most of our Calories come from?**
- A. Carbohydrates, Lipids, Proteins
 - B. Proteins, Nucleic Acids, Lipids
 - C. Carbohydrates, Nucleic Acids, Water
 - D. Nitrogen, Phosphorous, Potassium
258. **Which of the following is the least viable strategy for world food supply?**
- A. increase the number of crops from different plant species
 - B. doubling the global arable land for agriculture
 - C. increase land for grain production by reducing land for meat production
 - D. create a better system of food distribution

259. **Which is NOT true regarding of the mechanization of agriculture?**
- A. The use of machines encourages farmers to grow several types of plants on a single farm.
 - B. There is an economic advantage to using machines when fuel prices are low.
 - C. There is an economic advantage to using machines when cost of labor is high.
 - D. Mechanization allows farms to take advantage of economies of scale.
260. **A farmer discovers pests have become resistant to the atrazine she's been using so she must use larger, more frequent doses. This is known as**
- A. the pesticide treadmill
 - B. both an acute and a chronic effect
 - C. a synergistic effect
 - D. an antagonistic effect
261. **Why should rural areas be preserved?**
- A. They provide crucial infrastructure.
 - B. They provide ecological services.
 - C. They contain greenbelts.
 - D. None of the choices.
262. **What does "reuse" mean?**
- A. use less
 - B. use more
 - C. use again
 - D. don't use
263. **Eating a lot of meat is inefficient because**
- A. 10% of energy is lost in transfer between trophic levels.
 - B. 50% of energy is lost in transfer between trophic levels.
 - C. 60% of energy is lost in transfer between trophic levels.
 - D. 90% of energy is lost in transfer between trophic levels.
264. **Which of these is an example of a genetically modified organism (GMO)?**
- A. A dog that is produced from mating two different breeds.
 - B. Yellow Dent corn, a much larger strain of corn bred from wild varieties.
 - C. A liger, which is born when a male lion and female tiger mate.
 - D. BT corn, which contains a gene from a bacterium that gives it resistance from the European corn borer.
265. **Substances that can eat through or dissolve metal storage tanks and equipment are called**
- A. ignitable.
 - B. corrosive.
 - C. reactive.
 - D. toxic.
266. **In general, for females, caloric requirements ____ to age ____, then ____ until death.**
- A. Increase; 20; Decrease
 - B. Decrease; 20; Increase
 - C. Increase; 30; Level Off
 - D. Increase; 30; Decrease
267. **Which of these statements accurately compares forest soils to grassland soils?**
- A. Grassland soils have much thicker O horizons due to the accumulation of fallen leaves
 - B. Grassland soils have much thicker A horizons due to the deep root structure of the plants
 - C. Forest soils have much thicker A horizons because very little leaching of nutrients takes place.
 - D. The two soils have nearly identical profiles, which each horizon being about the same thickness.

268. **The Food Quality Protection Act**
- A. bans the use of DDT, dioxin, PCBs, and pesticides on all US produced food
 - B. requires the EPA to reduce pesticide use when the effects on children is unknown
 - C. regulates the use of genetically modified organisms in food produced within the US
 - D. encourages fast-food chains to report the ingredients on all food items they sell
269. **Widespread malnutrition and starvation in an area due to a short of food, usually caused by drought**
- A. The Green Revolution
 - B. Famine
 - C. Poverty
 - D. Land degeneration
270. **Most of the corn produced in the US is used for**
- A. sale in the supermarket
 - B. feeding cattle
 - C. fuel (ethanol)
 - D. exported to other countries
271. **Which of the following is NOT a traditional farming practice?**
- A. Manure as fertilizer
 - B. Biological pest control
 - C. Irrigation drip systems
 - D. Irrigation ditches
272. **What is Subsistence Farming?**
- A. Farming that focuses on feeding the family and making money
 - B. Farming that uses environment friendly techniques
 - C. Farming where the farmer produces food to live off of
 - D. Farming that grows organic food
273. **How do pesticides that regulate plant growth work?**
- A. They attract predators of the pest.
 - B. They disrupt the pest's life cycle
 - C. They allow crops to recover from pests and grow faster.
 - D. They cause pests to stop growing so that they stay too small to cause damage.
274. **Cancer, nervous system disorders, and illness are all concerns associated with ____**
- A. pesticides
 - B. manure
 - C. integrated pest management
 - D. compost
275. **Most volcanism in the world is associated with**
- A. hot spots
 - B. convergent and divergent plate boundaries
 - C. transform boundaries
 - D. faulting
276. **Weathered mineral matter, like clay, accumulates in the ____ horizon.**
- A. A
 - B. B
 - C. C
 - D. O
277. **Which of the following statements is NOT characteristic of modern industrial agriculture?**
- A. Specialized production
 - B. Prices met by individual needs of farmers
 - C. Selling products to processors
 - D. Participating in a global trade network

278. **What is a GMO?**
- A. It is a form of agriculture
 - B. It is a company that produces seeds for farmers
 - C. An organism whose DNA has been altered by a lab
 - D. All of the above
279. **A tool used to identify a soil type**
- A. punnett square
 - B. soil triangle
 - C. soil porosity flow chart
 - D. LD50 graph
280. **Why did Cattle Ranching decline in the 1880's?**
- A. Ranchers started to become farmers, and grow grains
 - B. The gold rush pushed people to leaving ranching
 - C. It was no longer popular to be a rancher
 - D. Came into conflict with sedentary agriculture.
281. **Organic farming includes**
- A. no use of chemicals
 - B. focus on soil health
 - C. both
 - D. none
282. **Under FIFRA ____**
- A. the EPA assesses health risks of active ingredients in pesticides
 - B. all pesticides are registered with the FDA, EPA, and USDA
 - C. the US may not use any pesticides that it produces by itself
 - D. all food imported must pass strict guidelines for pesticides present
283. **Which is an immediate factor for the current food crisis?**
- A. Decrease in human population
 - B. High grain reserves
 - C. drought in areas with a high crop yield
 - D. increase in grain production
284. **Who should care about food waste?**
- A. Only mother because she cooks dinners.
 - B. Only father because he goes for shopping.
 - C. Only kids because they eat the least among of all.
 - D. Everyone should be aware of food wasting because it's our common responsibility.
285. **Although farming led to many positive effects, such as the development of civilizations, there were also negative effects. Which of the following might be considered a negative effect of farming?**
- A. Farming took less time and effort than foraging.
 - B. The domestication of animals and the increase of population in cities led to the spread of more diseases.
 - C. Farming led to a decrease in population.
 - D. The surplus of food generated by farming had a negative impact on civilization.
286. **Which of the following is NOT part of sustainable agriculture?**
- A. Crop rotation
 - B. Agroforestry
 - C. Contour plowing
 - D. Monocropping

287. **What is one drawback of Drift Net fishing**
- A. Cost of fish is too high
 - B. Legal in every state
 - C. A lot of unwanted fish are caught and discarded
 - D. none of above
288. **Increases in crop yields during the green revolution resulted in part from**
- A. biological pest control
 - B. new crop varieties
 - C. new pest resistant crops
 - D. new fertilizers
289. **No till farming will most likely lead to all of the following EXCEPT**
- A. crop rotation.
 - B. intercropping.
 - C. planting herbicide-resistant crops.
 - D. habitat creation for pest predators.
290. **"Round-up ready" crops are genetically modified to**
- A. be resistant to glyphosates
 - B. resist freezing temperatures
 - C. reproduce quickly and enable farmers to save seeds
 - D. be easier to harvest
291. **Which of the following is NOT part of Integrated Pest Management (IPM)?**
- A. Intercropping
 - B. Pest resistant crop varieties
 - C. Limited irrigation
 - D. Creating habitats for predators of pests
292. **The term used to describe the excessive growth of algae due to increased runoff of fertilisers to the water bodies**
- A. Eutrophication
 - B. Biomagnification
 - C. green revolution
 - D. none of above
293. **Why does salination occur? Water from wells used for irrigation have ____**
- A. nitorgen
 - B. phosphorous
 - C. salt
 - D. impurities
294. **Under the integrated pest management system, among the following choices, which would be used first to prevent an infestation?**
- A. biologic methods such as Bt
 - B. DDT
 - C. soaps and oils that kill pests
 - D. broad spectrum pesticides
295. **____ is a light weight sterile mix, which contains natural ingredients found in nature and it is used for growing plants in controlled environment such as green-houses, shade houses, etc.**
- A. Soil-less medium
 - B. Soil
 - C. Clay
 - D. Silt
296. **Silt and sand are concentrated here**
- A. A horizon
 - B. B horizon
 - C. E horizon
 - D. O horizon
297. **What is the most common form of commercial agriculture in the United States and much of Europe?**
- A. Commercial Gardening and Fruit Farming

- B. Mix Crop and Livestock Farming
C. Dairy Farming
D. Grain Farming
298. **GMO's can allow farmers to**
A. use less pesticides and chemicals
B. engage in trap cropping
C. use pheromones to lure pests away from crop
D. Use mechanical bug-vacs to remove pests
299. **One potential way to deal with the problem of overharvesting is intensifying**
A. genetic engineering.
B. subsistence farming.
C. aquaculture.
D. integrated pest management.
300. **Chronic fatigue, suppressed immune function, and anemia can be symptoms of ____ deficiency.**
A. iodine
B. carbohydrates
C. iron
D. vitamin A
301. **According to the Integrated Pest management strategy, which of the following would be the LAST RESORT for controlling pests?**
A. synthetic (manmade) pesticides
B. import natural predators
C. plant BT corn
D. plant Round Up Ready Corn
302. **A major disadvantage to Monoculture is**
A. its high use of fertilizers
B. simplicity of production
C. its need for specialized harvesting
D. that it reduces the threat of pests
303. **Cell-based / cultivated meat would require how many animals to be slaughtered each year?**
A. 0
B. 50 million
C. 500 million
D. 5 billion
304. **Which of the following is NOT a major soil forming factor?**
A. Time, Topography (relief)
B. Climate, Parent Material
C. Organics (organisms)
D. Deposition
305. **What soil type is typically found on the top of soil?**
A. Humus because it made up of dead, organic matter
B. Loam because it is lighter than the other layers
C. Clay because it is not able to fit through the finer particles
D. Rock because the other layers are more dense
306. **Which Fishing technique is considered the most destructive?**
A. Drift Nets
B. Trawling
C. Baiting
D. Breeding
307. **the system of varying successive crops in a definite order on the same ground, especially to avoid depleting the soil and to control weeds, diseases, and pests.**
A. crop rotation
B. surplus
C. industrialization
D. hybrid

308. **Which of the following is a benefit of CAFOs?**
- A. animal waste is concentrated and easily disposed of, reducing potential for water pollution
 - B. land costs are minimized and feeding operations are efficient
 - C. use of antibiotics may be increasing anti-biotic resistant strains that can harm humans
 - D. Energy and water use are reduced compared to planted crops
309. **After many years of applying the selective pesticides provironex, a farmer notices that the applications seem less effective. This is likely due to**
- A. the fact that provironex is fat soluble and has been bioaccumulating.
 - B. provironex is selective, so other pests are filling the niche from the exterminated ones.
 - C. provironex is persistent, and the farmer should apply less for better results.
 - D. the target species has begun to evolve resistance.
310. **The movement of rocks and weathered materials is called ____**
- A. Chemistry
 - B. Physical
 - C. Weathering
 - D. Erosion
311. **What is a reaper?**
- A. A machine that harvested, cleaned, and threshed a crop
 - B. A machine that cuts grain standing
 - C. A combine tractor
 - D. All of the above
312. **Which of the following is a benefit of aquaculture?**
- A. reduction of disease and parasites
 - B. increases genetic diversity of fish populations
 - C. source of protein for undernourished people
 - D. they are held in clean, sterile environments
313. **If you have too many insects and weeds on your farm you would apply ____, which are chemicals that are used to kill insects and weeds.**
- A. Compost
 - B. Manure
 - C. Pesticides
 - D. Fertilizer
314. **A large farm in Iowa plants over a hundred acres of corn every year. This is the only crop they grow and sell. This is an example of what type of farming practice?**
- A. Subsistence agriculture
 - B. Crop rotation
 - C. Monoculturing
 - D. Irrigation
315. **The Green Revolution**
- A. discouraged the mechanization of agriculture.
 - B. decreased the energy subsidy of most food.
 - C. encouraged the use of monocropping.
 - D. pertained to leafy green plants only.
316. **A Milkshed is what?**
- A. A shed that is used to keep the temperature of the milk cold
 - B. A ring where milk can be produced & won't spoil at the market

- C. The building where the milking of the cows happens
- D. It is a form of a milk dud
317. **On the food chain to the right, which organism would you expect to have the biggest concentration (and health effects) from the buildup of a synthetic pesticide in an ecosystem?**
- A. The clovers
- B. The snail
- C. The thrush
- D. The sparrowhawk
318. **The three numbers on a bag of fertilizer represent all of the following EXCEPT**
- A. nitrogen
- B. phosphorus
- C. magnesium
- D. potassium
319. **What are the ingredients necessary for Threshold 7?**
- A. Increasingly dense human communities and knowledge about the environment
- B. New innovations such as the steam engine and automobile along with the burning of fossil fuels
- C. Powerful brains and symbolic language
- D. Complex chemical compounds (RNA and DNA)
320. **Which sustainable practice combines arable intercrops with forest trees?**
- A. Hydroponics
- B. Contour farming
- C. Conservation tillage
- D. Agroforestry
321. **Why does groundwater depletion happen?**
- A. People are using too little water
- B. Climate change and farmers using too much water
- C. Bird migration
- D. Pollution
322. **A high traffic area is likely to have what effect on soil?**
- A. decrease in nutrients
- B. increased compaction
- C. increased aeration
- D. leaching
323. **The two natural agents of erosion are —**
- A. wind and flowing water
- B. gravity and frost wedging
- C. oxygen and water
- D. carbon dioxide and wind
324. **The root cause of food insecurity is**
- A. poverty
- B. climate change
- C. corruption
- D. salinization of soil
325. **Plants are important to soil formation because**
- A. they release chemicals that aid in chemical weathering
- B. they grow roots that aid in physical weathering
- C. they add organic matter to soil
- D. all of these
326. **Which type of fertilizer is mined from minerals and requires large amounts of fossil fuels during production?**
- A. Inorganic fertilizer

- B. Animal Manure
C. Compost
D. Herbicide
327. **When a farmer uses no-till farming methods,**
A. seeds are planted among the roots of the previous crop.
B. more erosion is likely.
C. only organic fertilizers are used.
D. All choices
328. **What is a cross section in which layers (a.k.a. horizons) of soil and bedrock can be seen.**
A. Soil picture
B. Soil model
C. Soil profile
D. Soil section
329. **One of the advantages of Polyculture is that it**
A. reduces pests and weeds
B. is more labor intensive
C. maximizes efficiency
D. simplifies production
330. **A process in which mixed garbage is burned at very high temperatures is:**
A. recovery
B. incineration
C. leachate
D. source reduction
331. **Industrialized agriculture is often referred to as "high input" because it requires a great deal of:**
A. pesticides
B. fertilizers
C. fossil fuels
D. all of these
332. **Marine fisheries are particularly susceptible to the tragedy of the commons because**
A. fish are r-selected species that experience boom and bust cycles.
B. fish are highly migratory, so they don't belong to any one nation.
C. pollution is highest in areas with high fish populations.
D. international waters are governed by antiquated nautical law.
333. **Slash-and-burn is associated with**
A. traditional agriculture
B. plantations
C. high-input of resources
D. industrialized countries
334. **Which of the following best define the term 'Genetic Modification Organism' (GMO)?**
A. GMO is an organism that had its DNA artificially altered.
B. GMO is an organism that had its DNA artificially altered by the addition of genes from the DNA of unrelated species.
C. GMO is an organism that had its DNA artificially altered by the mutation process to its DNA.
D. none of above
335. **A condition that occurs when people do not consume enough calories or variety of foods.**
A. Famine
B. Malnutrition
C. Diet
D. Yield

336. **Which of the following is an example of intensive agriculture?**
- A. Wet Rice Dominant Subsistence Agriculture
 - B. Pastoral Nomadism
 - C. Ranching
 - D. Grain Production
337. **Many scientists argue that worldwide fisheries are declining, yet the worldwide number of fish harvested continues to increase. What best explains this discrepancy?**
- A. Scientists are being cautious in their estimates.
 - B. Fisheries are collapsing only in select areas.
 - C. More people are reporting the fish that they catch.
 - D. Improvements in technology is increasing the catch despite declining populations.
338. **Agriculture related environmental issue in northern Africa**
- A. urbanization
 - B. pesticide treadmill
 - C. desertification
 - D. eutrophication
339. **A farmer sprays Glyphosate from a plane onto her crop. After a rainstorm, the nearby stream shows an increase in Glyphosate. This is an example of**
- A. pesticide mobility
 - B. pesticide resistance
 - C. the pesticide treadmill
 - D. pesticides
340. **Which of the following best describes the process of desertification?**
- A. A drop of productivity of land of more than 10%.
 - B. Caused by overgrazing and soil erosion.
 - C. Occurs in arid or semi-arid areas.
 - D. All of the above
341. **The two main agents of erosion are ____**
- A. wind and flowing water
 - B. gravity and frost wedging
 - C. oxygen and water
 - D. carbon dioxide and wind
342. **What is Agriculture?**
- A. The science or practice of farming
 - B. It is a form of culture that is found in the Middle East
 - C. It is only factories that mass produce food
 - D. None of the above
343. **An area prone to landslides is an example of**
- A. rangeland.
 - B. open space.
 - C. rural land.
 - D. marginal land.
344. **BT corn contains genes from which type of organism?**
- A. reptile
 - B. plant
 - C. fish
 - D. bacteria
345. **Different early agrarian civilizations developed similar characteristics without necessarily coming into contact with one another. Which of the following is something numerous early civilizations had in common?**
- A. They all developed religions that were monotheistic (had one god).

- B. These societies could be described as egalitarian, meaning everyone was equal.
- C. All of their languages were based upon alphabets like ours.
- D. All had some form of government or a ruler to keep order.
346. **Organisms that have been bred and managed for human use**
- A. Livestock
- B. Domesticated
- C. Biological pest control
- D. Overharvesting
347. **In the movie Food Inc. we saw a couple Feedlots, what is a Feedlot?**
- A. A part of the farm that has the food stored
- B. A place where cows go to graze
- C. A place where animals can eat in a human way
- D. A building/stockyard where livestock is fattened for market
348. **What was one of the major causes of the Dust Bowl?**
- A. Cold and windy weather
- B. Increasing prices and demand for crops
- C. Removal of grasses and overfarming
- D. Sandy soil composition that would not stay in place
349. **environmental advantage of no-till agriculture**
- A. less erosion
- B. decrease in labor costs
- C. increased use of herbicides and pesticides
- D. increased need for irrigation
350. **Some farms will rotate their crops annually with legumes to reduce the amount of fertilizer they have to add to their soil. Which of these crops would be a good legume rotational crop to replenish nitrogen?**
- A. Corn
- B. Winter wheat
- C. Soybeans
- D. These are all legumes
351. **Which of the following uses the largest amount of land in the United States?**
- A. forestland
- B. rangeland and pasture
- C. cropland
- D. parks and preserves
352. **The Earth's available arable land is being reduced by**
- A. soil erosion
- B. fast-growing human populations
- C. desertification
- D. all of these
353. **The layer of soil most important to growing crops.**
- A. Horizon A
- B. Horizon B
- C. Horizon C
- D. Horizon D or R
354. **Which of the following is NOT a method of preventing overgrazing?**
- A. limiting herd size
- B. rotating the breed of cattle
- C. removing herds to allow vegetation to recover
- D. replanting native vegetation

355. **What are some consequences of deforestation?**
- A. increased population in cities
 - B. building of more infrastructure
 - C. soil erosion, loss of biodiversity, loss of ability to remove CO₂
 - D. more mercury and cyanide released into rivers
356. **Where is pastoral nomadism the dominant way of life?**
- A. Developing countries with dry climates
 - B. Developing countries with wet climates
 - C. Developed countries with dry climates
 - D. Developed countries with wet climates
357. **The population of people has increased — while the food production has increased linearly.**
- A. linearly
 - B. exponentially
 - C. explosively
 - D. inversely
358. **A mixture of soil, loam, and detritus; the topsoil**
- A. A horizon
 - B. B horizon
 - C. E horizon
 - D. O horizon
359. **This is NOT a source of famine around the world.**
- A. War
 - B. Natural Disaster
 - C. New crop variety
 - D. Crop failure by drought
360. **Which of the following is NOT a common characteristic of agrarian civilizations?**
- A. hunting and gathering
 - B. coordinating mechanism
 - C. writing systems
 - D. monumental architecture
361. **Term that refers to a dry climate**
- A. arable
 - B. taiga
 - C. arid
 - D. temperate
362. **What is the origin of the word "Agriculture"?**
- A. French
 - B. Spanish
 - C. Greek
 - D. Latin
363. **Which statement most accurately describes how geography affected the growth of the ancient civilizations of Egypt and Mesopotamia?**
- A. Large deserts provided many mineral deposits
 - B. Access to the Atlantic Ocean provided trade routes
 - C. River valleys provided rich soil to grow plentiful crops
 - D. Large, open plains provided protection from invaders
364. **Organic fertilizer comes from**
- A. only plants
 - B. only animals
 - C. plants and animals
 - D. synthetic chemicals

365. **Today what percent of Ranchers Lease their land from the United States government?**
- A. 40%
 - B. 50%
 - C. 60%
 - D. 70%
366. **If a seed has one seed leaf or cotyledon, it would be consider as a ____ seed.**
- A. Monocotyledon
 - B. Dicotyledon
 - C. Fibrous
 - D. Tap
367. **What kind of food do we waste the most?**
- A. Fruit, vegetables
 - B. Sweets
 - C. Dairy products
 - D. Herbs and spices
368. **The use of certain organisms by humans to control pests**
- A. Biological pest control
 - B. Pesticides
 - C. Yield
 - D. Overharvesting
369. **What percentage of calories fed to cows gets turned into beef?**
- A. 52
 - B. 33
 - C. 18
 - D. 3
370. **What does RECYCLING mean?**
- A. throw away
 - B. give things to other people
 - C. make new things out of old ones
 - D. using things again and again
371. **The connection between industry of farming and business.**
- A. agribusiness
 - B. subsistence agriculture
 - C. plantation farming
 - D. feedlot
372. **The water holding capacity of soil is LEAST likely to be affected by the addition of which of the following?**
- A. Clay
 - B. Hummus
 - C. Manure
 - D. Pesticide
373. **A positive impact of industrial/commercial agriculture is**
- A. a decrease in amount of crops produced
 - B. an increase in amount of crops produced
 - C. increased water and air pollution
 - D. decrease in the amount of machinery used
374. **A diet low in ____ will result in the disorder ____, which reduces the ability of the body to transport oxygen through the blood.**
- A. Iron / Kwashiorkor
 - B. Iron / Anemia
 - C. Iodine / Goiter
 - D. Protein / Kwashiorkor
375. **People in industrialized country is more likely to eat ____ compared to people in developing country.**
- A. rice
 - B. corn
 - C. bean
 - D. beef

376. **Two major effects of soil erosion are**
- A. water pollution and soil infertility
 - B. desertification and salinization
 - C. salinization and water pollution
 - D. soil infertility and desertification
377. **All of the following are methods of solid waste disposal EXCEPT:**
- A. landfills
 - B. open dumping
 - C. incineration
 - D. recovery
378. **Why is the Green Revolution agriculture NOT considered a sustainable form of agriculture?**
- A. It introduced new GMO plants
 - B. The plants required large amounts of pesticides, fertilizers, and water
 - C. It produces too many plants
 - D. The plants require small amounts of pesticide, fertilizers, and water
379. **The 10% rule applies to raising plants and animals on a farm, just like in an ecosystem. With that in mind, how many pounds of grain would you expect to be needed to produce 10 pounds of beef?**
- A. 10 pounds of grain
 - B. 50 pounds of grain
 - C. 100 pounds of grain
 - D. Over 250 pounds of grain
380. **Fill in the blank: ____ percent of sea food now comes from aquaculture.**
- A. 34
 - B. 22
 - C. 49
 - D. 23
381. **Lack of adequate calories**
- A. malnutrition
 - B. undernutrition
 - C. overnutrition
 - D. anemia
382. **DDT has been banned for decades, but is still found in humans today. It exhibits ____**
- A. immunity
 - B. determination
 - C. resistance
 - D. persistence
383. **Under the integrated pest management system, the first line of defense during an infestation is to use**
- A. biologic methods
 - B. DDT
 - C. genetic engineering
 - D. broad range pesticides
384. **What is the purpose of "finishing" for beef cows?**
- A. Cause the cows to gain weight
 - B. Making the cows unconscious before slaughter
 - C. The act of slaughtering a cow
 - D. Letting old cows live out their life in a pasture
385. **Liter layer, mostly undecided materials**
- A. A horizon
 - B. B horizon
 - C. O horizon
 - D. E horizon
386. **The invention of more productive agricultural techniques during the 1960s and 1970s is called the**
- A. green revolution

- B. agricultural revolution
C. farming revolution
D. crop revolution
387. **Genetically modified foods are engineered to resist herbicides so that**
A. humans won't be put at health risks from pesticides
B. insect pests will avoid the crops
C. the crops will grow more efficiently
D. farmers can use heavier doses of pesticides for weeds without killing the crop plants
388. **The natural factors that affect biodiversity are?**
A. Poaching, pollution, introducing exotic species, habitat destruction
B. Captive breeding, laws/treaties, habitat preservation
C. Climate, area, diversity of niches, genetic diversity, and extinction of species
D. none of above
389. **The ecosystem in the western Plains of the United States is best described as a**
A. temperate desert
B. temperate grassland
C. deciduous forest
D. wind erosion
390. **Which of the following categories includes all of the others?**
A. fungicides
B. pesticides
C. insecticides
D. herbicides
391. **What may NOT lead to desertification of farmland?**
A. no-till farming
B. over grazing cattle
C. soil erosion
D. none of above
392. **A condition that is caused by not enough protein in diet**
A. Anemia
B. Goiter
C. Kwashiorkor
D. none of above
393. **What are the Goldilocks Conditions necessary for Threshold 7?**
A. Just the right amount of energy coupled with liquid water
B. New organisms with the ability to metabolize and reproduce
C. Warmer climates after the last ice age and increasing competition for resources
D. Globalization
394. **Which areas of the world are most susceptible to desertification?**
A. Humid Equatorial Regions
B. Temporal Chaparral
C. Areas adjacent to the Poles.
D. Areas adjacent to Existing Deserts.
395. **Shifting cultivation is found in all of the following locations EXCEPT**
A. Tropical Forests
B. Southeast Asia
C. Central Agrica
D. Southwest Asia
396. **Irrigation water usually comes from**
A. rainwater collection.
B. rivers and groundwater.
C. salty sources.
D. All choices.

397. **When forests are not replanted after trees are cut, natural resources**
- A. increase.
 - B. decrease.
 - C. regenerate.
 - D. remain unchanged.
398. **What physical characteristic do all deserts share?**
- A. They have no plants.
 - B. They receive little rain.
 - C. They are very, very hot.
 - D. They have lots of trees.
399. **Most farms today use synthetic ____ pesticides and herbicides (such as Round-up) to control their biological pests. The problem with these chemicals is that they ____ in the environment.**
- A. Synthetic pesticides, Bioaccumulate
 - B. Botanical pesticides, Bioaccumulate
 - C. Synthetic pesticides, Biodegrade
 - D. Botanical pesticides, Biodegrade
400. **Soil composed of the finest particles**
- A. clay
 - B. silt
 - C. humus
 - D. loam
401. **What percentage of greenhouse gas emissions caused by producing food are from animal products?**
- A. 80
 - B. 60
 - C. 40
 - D. 20
402. **Overuse of the ____ aquifer could cause another soil catastrophe in the mid-west.**
- A. Ogallala
 - B. surface
 - C. ocean
 - D. glacial
403. **The 3 main grain crops (in any order) grown in the US are:**
- A. rice, kale, and corn
 - B. wheat, barley, and hops
 - C. corn, wheat, and rice
 - D. hemp, corn, and rice
404. **What is a huge problem with the overuse of pesticides?**
- A. bioaccumulation in the tissue of animals is passed through the food chain
 - B. Over time pesticide resistant species will become less abundant
 - C. high output of food
 - D. an increase of fertilizers use
405. **How many pounds of fish do commercial fisheries catch each day?**
- A. 1 million pounds
 - B. 100 million pounds
 - C. 500 million pounds
 - D. 1 billion pounds
406. **Which of the following do some uninformed people believe are harmful effects of agriculture?**
- A. Algal blooms due to fertilizer runoff
 - B. Climate change associated with methane emissions from livestock and rice paddies
 - C. Pesticide residue in food, water, and air
 - D. All of the above
407. **The land survey system that makes use of natural features to form boundaries is called**
- A. Long-lot survey system

- B. Metes and bounds system
C. Township and Range system
D. Primogeniture
408. **Biological pest control is the use of ____ to control pests**
A. living organisms
B. living organisms and chemicals
C. chemical pesticides
D. salt and other dry materials
409. **You hold soil in your hand and notice how sandy it feels. What soil property are you observing?**
A. fertility
B. order
C. aeration
D. texture
410. **Which of the following is NOT a reason why land use around the world is deteriorating to desert-like conditions known as desertification?**
A. Overgrazing
B. Urbanization
C. Deforestation
D. Irrigation Systems
411. **capable of being broken down by biological processes, such as the action of bacteria**
A. biodegradable
B. leachate
C. recycling
D. solid waste
412. **Soil rich in organic matter**
A. clay
B. humus
C. loam
D. sand
413. **All of the following statements about the degradation of soil by climate change are true EXCEPT**
A. Increased flooding in coastal areas leads to soil desalinization.
B. Increased global temperature produces more deserts.
C. Decreased precipitation produces more deserts.
D. Increased evaporation of water leads to soil salinization
414. **An organic farmer is required to use which of the following when fertilizing his/her fields?**
A. Inorganic fertilizers
B. Fertilizers made from mined minerals
C. Manure or compost
D. Nitrogen from the atmosphere
415. **A divergent boundary occurs when plates ____**
A. Pull apart
B. Come together
C. Slide past each other
D. subducting
416. **Nitrogen is a necessary nutrient for plants but can only be taken up by the roots in the form of**
A. nitrates
B. atmospheric nitrogen
C. ammonium
D. outgasing
417. **Organic fertilizer made from dung and urine (animal waste)**
A. Compost
B. Famine
C. Genetic engineering
D. Persistent

418. **Cows are classified as ____, because they have the ability to break down shrubs and turn it into meat.**
- A. poultry
 - B. livestock
 - C. ruminants
 - D. domesticated
419. **How many human deaths have been linked to GMOs?**
- A. None
 - B. 1
 - C. 1, 237 (as of October, 2016)
 - D. 65 in 2017
420. **In Von Thunen's Model what was past his last ring?**
- A. Nothing
 - B. Unoccupied wilderness
 - C. There was 8 rings
 - D. This was new settlements of people
421. **Livestock in developing countries provide**
- A. manure.
 - B. eggs and meat.
 - C. leather and wool.
 - D. All choices.
422. **Hydroponics is a method of growing plants without the use of ____**
- A. Water
 - B. Fertilizer
 - C. Soil
 - D. Sunlight
423. **Extensive agriculture involves**
- A. lots of land and labor
 - B. little land and labor
 - C. lots of land; less labor
 - D. lots of labor; less land
424. **Area that extends 200 miles from a nation's coastline**
- A. Compost
 - B. Famine
 - C. Exclusive Economic Zone
 - D. Persistent
425. **What makes the seed?**
- A. Embryo, Food store, Testa
 - B. Plumule, Testa
 - C. Testa
 - D. Radicle
426. **Where did all early agrarian civilizations form?**
- A. Along rivers
 - B. In mountains
 - C. On the coast of major seas and oceans
 - D. In rainforests near the equator
427. **Which of the following is a drawback of no-till agriculture?**
- A. increased CO₂ emissions
 - B. increased soil erosion
 - C. increased need for herbicides
 - D. increased need for fertilizers
428. **The rearing of aquatic organisms**
- A. agroforestry
 - B. aquaculture
 - C. CAFO
 - D. Green Revolution
429. **What percent of soil is "organic matter"?**
- A. 5%
 - B. 25%
 - C. 45%
 - D. 50%

430. **Which trophic level would be most affected by a toxin such as DDT?**
- A. producers
 - B. primary consumers
 - C. secondary consumers
 - D. tertiary consumers
431. **Agriculture that features large numbers of animals in a small area with corn or other feeds being shipped in rather than pasture**
- A. IPM
 - B. aquaculture
 - C. hydroponics
 - D. CAFO
432. **Both shifting agriculturalists and commercial farmers practice crop rotation, but subsistence farmers ____**
- A. make more use of fertilizers
 - B. do not raise livestock
 - C. are more likely to allow fields to remain fallow
 - D. sell their crops on a global market
433. **The “code of the west” refereed to what for Ranchers?**
- A. Farmers had control of the land
 - B. Ranchers had range rights, their animals had free reign
 - C. Ranchers looked out for each other and fought against others
 - D. None of the above
434. **Repeated application of irrigated water in dry climates leads to ____**
- A. a drop in productivity of the land by more than 10%, leading to desertification
 - B. a build up of nutrients, leading to increased levels of erosion
 - C. a build up of salts in the soil, leading to salinization
 - D. decreased phosphorus and nitrogen, leading to eutrophication
435. **All of these are typical cash crops grown in plantation agriculture, except:**
- A. bananas
 - B. corn
 - C. coffee
 - D. sugarcane
436. **What is an urban area?**
- A. Land that includes woods, beaches, crops
 - B. Land covered by buildings, roads, and suburbia
 - C. An area with a lot of shopping malls
 - D. An area with many forests
437. **Synthetic fertilizers have many advantages over traditional “organic” animal waste fertilizers. These include all of the following EXCEPT**
- A. ease of application.
 - B. highly adjustable nutrient content.
 - C. bioavailability of nutrients.
 - D. lack of nutrient runoff problems.
438. **An Earth material that is 45% mineral, 50% pore space and 5% organic matter is called**
- A. soil
 - B. subsoil
 - C. bedrock
 - D. impermeable
439. **In which of the following areas has desertification had the strongest negative impact on food production?**
- A. northern Africa
 - B. Mexico
 - C. Eastern China
 - D. Peru

440. **Repellent chemicals and tough skin are both examples of ____**
- A. genetic engineering
 - B. natural plant defenses
 - C. disrupting insect breeding
 - D. pathogens
441. **Mixture of decomposing organic matter used as a fertilizer**
- A. Domesticated
 - B. Biological pest control
 - C. Aquaculture
 - D. Compost
442. **Meat consumption in the US is generally about ____ % higher than the rest of the world.**
- A. 75%
 - B. 100%
 - C. 125%
 - D. 150%
443. **Undernutrition means**
- A. not consuming a sufficient number of calories.
 - B. lacking a specific nutrient such as vitamin A or iron.
 - C. a lack of food such that deaths begin to occur.
 - D. the ingestion of too many poor quality calories.
444. **Which of the following is not a branch of Agriculture?**
- A. Agronomy
 - B. Animal Science
 - C. Agricultural Engineering
 - D. Money
445. **Which of the following products requires the most water to produce?**
- A. Corn
 - B. Beef
 - C. Milk
 - D. Lettuce
446. **What is deforestation?**
- A. throwing someone out of a window
 - B. selectively cutting trees for lumber, making sure the forest remains healthy
 - C. allowing more animals to graze on the land than it can support
 - D. cutting and removal of rainforest
447. **Von Thunen's Model had how many assumptions?**
- A. 3
 - B. 4
 - C. 5
 - D. 6
448. **Which of the following actions contributes to soil erosion?**
- A. using compost as fertilizer
 - B. allowing land to lie fallow
 - C. driving farm machinery over fields
 - D. all of these practices contribute to soil erosion.
449. **Which item should you NOT put in your compost pile?**
- A. food scraps
 - B. autumn leaves
 - C. wood chips
 - D. plastic
450. **Which type of diffusion is most closely associated with the Columbian Exchange?**
- A. Stimulus diffusion
 - B. Expansion diffusion

- C. Relocation diffusion
D. Contagious diffusion
451. **What are common practices that lead to overgrazing?**
A. grazing cattle instead of sheep and goats
B. getting into conflicts with neighbors over grazing rights
C. using sheepdogs instead of human shepherds
D. too many animals, lack of rotation, grazing at wrong times in plant life cycle
452. **The purpose of selective breeding is to**
A. Get bigger animals
B. get smaller animals
C. create animals with desirable traits
D. create animals with bad traits
453. **According to the Integrated Pest Management strategy, which of the following would be the MOST PREFERRED method of pest control?**
A. Synthetic (manmade) Pesticides
B. Importing natural predators
C. Stop planting crops
D. Plant GMO crops
454. **Which is NOT a disadvantage of monocropping?**
A. Erosion due to exposure of large areas of soil during planting
B. Nutrition and pesticide needs do not change
C. More vulnerable to pests that prefer a high concentration of food
D. Reduction of productivity due to loss of nutrient-rich topsoil
455. **A dark brown, crumbly material made from decomposed matter is called ____**
A. compost
B. brown sugar
C. saw dust
D. non-biodegradable
456. **One animal food product that uses the most land, water and produces the most greenhouse gas is**
A. beef
B. pork
C. chicken
D. eggs
457. **Domesticated animals were**
A. bred and managed for human use
B. killed and being used as a source of energy
C. they skim them for their fur
D. use their bones and skin for shelter and protection
458. **The industrialized agriculture system shuts down without what key ingredient?**
A. cheap fossil fuel energy
B. genetically modified organisms
C. efficient food processing plants
D. The Food Quality Protection Act
459. **The order of soil horizons from top to bottom is**
A. O, E, C, B, A
B. O, C, A, B, E
C. O, A, E, B, C
D. A, B, C, E, O
460. **All of the following is allowed in the wilderness except**
A. research.
B. camping.

- C. development.
D. fishing.
461. **Mariculture benefits are ALL of the following EXCEPT**
- A. Alternative source of income
 - B. Can generate a surplus for revenue generation
 - C. Large inputs of machinery, time and energy
 - D. High yields of fish protein
462. **Which of the following is NOT true about food and the people of developed countries?**
- A. They eat too much protein, salt, sugar, and fat.
 - B. They do not eat enough fiber.
 - C. They primarily use industrial farming of monocultures.
 - D. They primarily plant polycultures on a plot of land.
463. **Contour plowing**
- A. is when you rotate what you grow and where you grow them
 - B. is when you do not plow after the harvest between fall and spring
 - C. leave strips of vegetation between rows of crops
 - D. creates ridges between rows that prevent soil from washing downhill
464. **Aquaponics is the ____**
- A. divorce of sunlight and fish
 - B. marriage of plants and fish
 - C. marriage of soil and water with fish
 - D. divorce of rocks and gravel
465. **When roots become saturated with water due to over-irrigation, it causes death in plant roots. This is called:**
- A. salinization
 - B. desertification
 - C. agroforestry
 - D. waterlogging
466. **The green revolution depended on**
- A. new biodegradable pesticides.
 - B. high-yielding grain varieties.
 - C. clearing forest for crop land.
 - D. organic fertilizers.
467. **Which of the following greenhouse gases result from the application of too much fertilizer?**
- A. carbon dioxide
 - B. nitrous oxide
 - C. methane
 - D. sulfur dioxide
468. **The efficiency of conversion of animal feed to production weight is known as**
- A. FCR
 - B. CAFO
 - C. RATIO
 - D. the pig market
469. **Which of the following is a good way to reduce salinization?**
- A. use ocean water instead of groundwater to irrigate crops
 - B. increase the use of synthetic pesticides
 - C. using rainwater instead of groundwater on crops
 - D. adopt no-till farming methods
470. **Farmers who grow only enough for personal or local use.**
- A. Sustainable farming
 - B. Subsistence farming
 - C. Monoculture
 - D. none of above

471. **excessive irrigation in drier climates leads to**
- A. local and regional flash flooding
 - B. increased water tables
 - C. increased soil salinization
 - D. increased crop yields
472. **Which is an advantage of monocropping?**
- A. Erosion due to exposure of large areas of soil during planting
 - B. Nutrition and pesticide needs do not change
 - C. More vulnerable to pests that prefer a high concentration of food
 - D. Reduction of productivity due to loss of nutrient-rich topsoil
473. **Industrial Agriculture has many benefits. Which of the following is NOT a benefit associated with industrial agriculture?**
- A. The ratio of energy input to calorie output is low.
 - B. Larger food production per hectare.
 - C. Monoculture can be more efficient.
 - D. Economy of scale can make the food less expensive.
474. **Alternatives to using pesticides include (all of these except)**
- A. using monocultures to single out pests
 - B. GMO crops with inherent pest resistance
 - C. using pheromones to lure and trap pests
 - D. biological controls
475. **A steady diet of high calorie, low nutrition fast food may lead to. OvernutritionII. MalnutritionIII. Undernutrition**
- A. I only
 - B. II only
 - C. III only
 - D. I and II
476. **The process by which metamorphic rocks are formed ____**
- A. heat and pressure
 - B. erosion and deposition
 - C. melting and cooling
 - D. none of above
477. **Which category produces the greatest amount of waste?**
- A. Industrial
 - B. Municipal
 - C. Hazardous
 - D. Litter
478. **The use of synthetic fertilizers can increase crop yield, but also**
- A. destroy nitrifying bacteria in the soil
 - B. increase nutrient runoff into nearby surface waters
 - C. slow the release of organic nutrients from compost
 - D. increase fish populations in nearby streams
479. **Crop rotation**
- A. Grows crops perpendicular to the slope of the land
 - B. Plants trees between rows of crops
 - C. Growing two or more crops in proximity
 - D. Grow different crops each season
480. **For organic farmers to make a profit**
- A. manure must be found in abundance in close proximity to the farm.
 - B. the government must continue to provide subsidies to organic farmers.

- C. consumers must be willing to pay higher costs associated with organic produce.
- D. organic farmers must use monocropping.
481. **All of the following are disadvantages of raising animals in feedlots, EXCEPT**
- A. less land use
- B. uses more water
- C. produces large amounts of animal waste
- D. increased antibiotic use
482. **Only found in forests and includes leaf litter and other non-decomposed organic matter.**
- A. A Horizon
- B. B Horizon
- C. C Horizon
- D. none of above
483. **DDT is ___ in the environment. This means it doesn't break down/decompose. It lasts a long time.**
- A. persistent
- B. synergistic
- C. acute
- D. threshold
484. **Cattle, sheep, and goats are considered to be:**
- A. Livestock
- B. Farm animals
- C. Ruminants
- D. Endangered animals
485. **The average food item in the US travels ___ km from harvest to table**
- A. 500
- B. 1000
- C. 1500
- D. 2000
486. **Subsistence agriculture dominates in**
- A. Less developed countries
- B. More developed countries
- C. Mid-latitude climates
- D. Newly industrialized countries
487. **Most of the nutrients in soil comes from**
- A. chemical weathering
- B. mechanical weathering
- C. erosion
- D. decomposition
488. **How many animals are raised and killed for food each year?**
- A. 700 million
- B. 7 billion
- C. 70 billion
- D. 700 billion
489. **Which of the following agricultural products requires the least amount of energy?**
- A. beef cattle
- B. wheat
- C. dairy cows
- D. chickens
490. **Which of these Earth materials is likely the most permeable?**
- A. gravel
- B. sand
- C. silt
- D. clay

491. **A farmer using an Integrated Pest Management system on his farm would use which of these options as a last resort?**
- A. A synthetic chemical pesticide like Malathion
 - B. Natural predators to the pests
 - C. Choosing breeds of plants that have natural resistance to the pests
 - D. Planting a different crop that is not targeted by the pests
492. **Historians believe that Pastoral Nomads are where in the evolutionary scale?**
- A. At the bottom
 - B. Right below Hunters and Gatherers
 - C. Same as Hunter and Gatherers
 - D. In between Hunters and Gatherers and Sedentary people?
493. **Because it has many components which work together, soil can be called a(n)**
- A. system
 - B. degradation
 - C. composite
 - D. litter
494. **Benefits of GMO crops include**
- A. lower cost, keep coming back each year to grow, no problems
 - B. slower growth, increased insects, and decreased plant defenses
 - C. Less water to grow, resistant to pests and diseases
 - D. increased profits to seed companies, happier farmers and happy plants.
495. **One cause of soil erosion/degradation is**
- A. deforestation
 - B. polyculture
 - C. organic farming
 - D. the minimal use of fertilizer
496. **Before agriculture, people were basic**
- A. nomads
 - B. meat eaters
 - C. hunters and gatherers
 - D. none of the choices
497. **The raising of aquatic organisms for human use.**
- A. marine aquaculture
 - B. freshwater aquaculture
 - C. Both
 - D. none of above
498. **What form of nitrogen is found in the atmosphere and then captured by nitrogen fixing bacteria?**
- A. N₂
 - B. NH₄
 - C. NO₂
 - D. NO₃
499. **The majority of the world fresh water is used in ____**
- A. industry
 - B. transportation
 - C. power plants
 - D. irrigation
500. **Urban sprawl involves people moving from cities to land that was previously used for**
- A. industry and open space.
 - B. food production and open space.
 - C. power lines.
 - D. housing.
501. **Topsoil; best for plants to root and grow in**
- A. A Horizon
 - B. B Horizon
 - C. C Horizon
 - D. none of above

502. **A negative impact of industrial/commercial agriculture is**
- A. a decrease in amount of crops produced
 - B. an increase in amount of crops produced
 - C. increased water and air pollution
 - D. decrease in the amount of machinery used
503. **Broken down bedrock (the foundation of good soil) is found in the ____ horizon.**
- A. O
 - B. B
 - C. E
 - D. C
504. **Nutrients or minerals are removed from soil by dissolving in water**
- A. salinization
 - B. aeration
 - C. compaction
 - D. leaching
505. **The type of nutrient consumed most in the world is ____**
- A. fats
 - B. proteins
 - C. carbohydrates
 - D. nucleic acids
506. **The practice of planting a nitrogen-using plant with a nitrogen-fixing plant is called**
- A. intercropping
 - B. contour farming
 - C. agroforestry
 - D. monoculture
507. **The relative abundance of sand, silt and clay in soil can be found by determining its**
- A. texture
 - B. implied ratio
 - C. salinity ratio
 - D. saturation
508. **Which of the following would be best addressed with contour plowing?**
- A. eutrophication
 - B. soil erosion
 - C. soil salinization
 - D. pesticide treadmill
509. **Good garden soil may**
- A. have equal quantities of sand, silt and clay
 - B. have mostly sand
 - C. have mostly clay
 - D. none of these answers is correct
510. **What benefit does intercropping vegetables such as corn with beans have?**
- A. provides nutrients to the ground
 - B. provides moisture to the ground
 - C. increases the input in the system
 - D. holds the soil together
511. **How did the development of agriculture affect human societies?**
- A. Societies became nomadic
 - B. Food production declined
 - C. Civilizations developed
 - D. Birthrates decreased rapidly
512. **Where does Shifting Cultivation (Slash and Burn agriculture) take place?**
- A. Tropical climates with lots of rain
 - B. Cold climates with lots of sun
 - C. Tropical climates with little to no rainfall
 - D. Climates with multiple seasons, but stay consistently warm

513. **Why is some produce thrown away?**
- A. it's the wrong shape
 - B. it's too expensive
 - C. farmers need fertilizer
 - D. none of above
514. **Irrigation can lead to all of the following EXCEPT:**
- A. Waterlogging
 - B. Salinization
 - C. Depletion of ground water
 - D. Recharging of aquifers
515. **How long does it take for a clearing to be used for farming again after Slash and Burn ag?**
- A. 1-3 years
 - B. 4-15 years
 - C. 6-20 years
 - D. 8-23 years
516. **Catching or removing from a population more organisms than the population can replace is called**
- A. Overgrazing
 - B. Overharvesting
 - C. Aquaculture
 - D. Domesticating
517. **Which of the following is NOT an argument against GMO usage?**
- A. Development of super bugs/weeds
 - B. Introduction of allergens
 - C. Higher crop yields
 - D. Possible unknown health effects
518. **You are a farmer planning to start growing organic vegetables to sell at a farmers' market. Before you start planting your seeds, you should test your soil for which two major nutrients**
- A. Nitrogen and Phosphorus
 - B. Phosphorus and Carbon
 - C. Nitrogen and Carbon
 - D. Nitrogen and Calcium
519. **Intensive agriculture involves**
- A. lots of land and labor
 - B. little land and labor
 - C. lots of land; less labor
 - D. lots of labor; less land
520. **What three grains provide most of the world's calories?**
- A. rice, soybean, corn
 - B. cassava, soybean, wheat
 - C. barley, oats, corn
 - D. wheat, corn, rice
521. **IPM is likely to use all of the following techniques EXCEPT**
- A. intercropping.
 - B. planting herbicide-resistant crops.
 - C. habitat creation for pest predators.
 - D. increased use of traditional pesticides.
522. **Solid waste includes all of the following except;**
- A. newspaper and soda bottles
 - B. food scraps and yard clippings
 - C. ozone and carbon dioxide
 - D. junk mail and milk cartons
523. **Which one of these techniques would be the best for reducing water erosion on farmland that is along a steep hillside?**
- A. Terracing
 - B. Contour plowing
 - C. Strip cropping
 - D. A windbreak

524. **The first agriculturalists were**
- A. Commercial farmers
 - B. European entrepreneurs
 - C. Also hunter-gatherers
 - D. Most likely males
525. **Chemical messengers that are produced in the plant and control growth.**
- A. Hormones
 - B. Tropisms
 - C. Compounds
 - D. Sugars
526. **What is an ecological impact of soil erosion?**
- A. Loss of healthy soil
 - B. Creation of better soil
 - C. Food for farm animals
 - D. Destruction of bird sanctuaries
527. **What were the benefits of the "green revolution"?**
- A. It reduced the price of food and improved the lives of many people,
 - B. It increased the amount of organic foods available in markets and reduced the cost of production.
 - C. It created environmentally friendly pesticides
 - D. It created "super foods"
528. **Which is part of an integrated pest management?**
- A. no-til
 - B. increased application of pesticides
 - C. contour plowing
 - D. crop rotation
529. **Which of the following is typically true of desert soil?**
- A. it has a thick O horizon
 - B. it has a rich A horizon with a lot of humus
 - C. It experiences high amounts of chemical weathering
 - D. it is dry and rocky with little organic matter
530. **What is mineral matter?**
- A. Rocks
 - B. Sediments
 - C. Sand, silt, & clay
 - D. All of the above
531. **Vegetation and manufactured structures that cover land.**
- A. Land cover
 - B. Land use
 - C. Urban area
 - D. Rural area
532. **An integrated pest management approach to pest control emphasizes which of the following?**
- A. Eradication of the pest population
 - B. Reduction of crop damage to an economically tolerable level
 - C. Use of plant monoculture to simplify spraying
 - D. Elimination of the use of second generation pesticides
533. **Many early farmers of the Western U.S. plains believed a theory called "Rain Follows the Plow." What was the problem with this theory?**
- A. Farming actually makes it rain less, not more.
 - B. The climate at the time farming took place was not any different than normal.
 - C. The usually high precipitation during this period of early farming and settling was a coincidence.

- D. This theory is actually true. Farming and settling an area makes it rain more frequently.
534. **Legumes have special root nodules that contain colonies of bacteria. The bacteria receive nutrients from the plant, and the plant receives nitrogen from the bacteria. This is an example of a ___ relationship**
- A. Mutualistic
 - B. Commensalistic
 - C. Parasitic
 - D. none of above
535. **How does plowing cause topsoil erosion?**
- A. It actually prevents topsoil erosion
 - B. It loosens the soil so it erodes more easily
 - C. It exhausts the nutrients in the ground
 - D. It removes the water in the ground
536. **Eliminating invasive plants and replacing them with native plants is one aspect of**
- A. urban management.
 - B. deforestation.
 - C. range improvement.
 - D. overgrazing.
537. **The process of nutrients or minerals being removed from soil by dissolving in water**
- A. salinization
 - B. aeration
 - C. compaction
 - D. leaching
538. **Which of the following is the most efficient method of irrigation?**
- A. Furrow irrigation
 - B. Drip irrigation
 - C. Contour irrigation
 - D. Center Pivot irrigation
539. **Nicotine sulfate is an example of a**
- A. first generation pesticide
 - B. pesticide developed synthetically
 - C. second generation pesticide
 - D. teratogen
540. **Livestock does not provide humans with**
- A. Ruminants
 - B. Wool
 - C. Manure
 - D. Leather
541. **Pesticides kill ___ ?**
- A. Weeds and insects
 - B. Insects and other pests
 - C. Weeds only
 - D. Insects only
542. **People moving from the rural areas to cities is called ___**
- A. Ruralization
 - B. Urbanization
 - C. Colonization
 - D. None of these
543. **Overuse of pesticides may result in ___ , the ability to survive a pesticide.**
- A. immunity
 - B. determination
 - C. resistance
 - D. persistence

1.29 types of agriculture

1. **A form of subsistence agriculture in which farmers must expend a relatively large amount of effort to produce the maximum feasible yield from a parcel of land**
 - A. Pastoral Nomadism
 - B. Intensive Subsistence
 - C. Shifting Cultivation
 - D. Plantation
2. **Commercial farming characterized by the integration of crops and livestock; most of the crops are fed to animals rather than consumed directly by humans. Like corn farming in the US.**
 - A. ranching
 - B. plantation agriculture
 - C. mixed crop/livestock agriculture
 - D. shifting cultivation
3. **Seed of a cereal grass**
 - A. Mixed Crop and Livestock
 - B. Dairying
 - C. Grain
 - D. Ranching
4. **Truck farming, grow fruits and vegetables mainly for sale to processors who can or freeze products**
 - A. Mixed Crop and Livestock
 - B. Dairying
 - C. Mediterranean
 - D. Commercial Gardening
5. **The 2 types of agriculture are**
 - A. aquaculture and oceanography
 - B. Horticulture and Sericulture
 - C. Subsistence and commercial
 - D. Household and nationwide
6. **___ is one of the crops grown under commercial farming.**
 - A. potato
 - B. onion
 - C. Wheat
 - D. Tomato
7. **A large farm in tropical and subtropical climates that specialized in the production of one or two crops for sale, usually to a more developed country**
 - A. Pastoral Nomadism
 - B. Intensive Subsistence
 - C. Shifting Cultivation
 - D. Plantation
8. **Rice planted on dry land in a nursery and then moved to a deliberately flooded field to promote growth**
 - A. Pastoral Nomadism
 - B. Intensive Subsistence, Wet Rice
 - C. Shifting Cultivation
 - D. Plantation
9. **Shifting Cultivation is primarily practised in the regions where ___ takes place.**
 - A. tsunami
 - B. heavy rainfall
 - C. dry weather
 - D. cutting of trees
10. **Small piece of land, simple implements, few crops planted, small amount of money involved, low level of education etc are characteristics of .**
 - A. Commercial agriculture
 - B. Subsistence agriculture
 - C. Forestry
 - D. sustainable agriculture

11. **Farming that involves high inputs of capital, fertilisers and labour is known as ____**
- A. Intensive farming
 - B. Extensive farming
 - C. Organic farming
 - D. Subsistence farming
12. **A form of subsistence agriculture in which people shift activity from one field to another; each field is used for crops for relatively few years and left fallow for a relatively long period.**
- A. ranching
 - B. pastoral nomadism
 - C. mixed crop/livestock agriculture
 - D. shifting cultivation
13. **Commercial farming characterized by integration of crops and livestock; most of the crops are fed to animals rather than consumed directly by humans**
- A. Mixed Crop and Livestock
 - B. Dairying
 - C. Grain
 - D. Ranching
14. **Which of the following is not a feature of commercial agriculture?**
- A. high capital
 - B. control of pest and diseases
 - C. use of family labour
 - D. use of mechanised farm tools
15. **A form of commercial agriculture that specializes in the production of milk and other dairy products**
- A. Mixed Crop and Livestock
 - B. Dairying
 - C. Grain
 - D. Ranching
16. **A form of subsistence agriculture based on herding domesticated animals**
- A. Pastoral Nomadism
 - B. Intensive Subsistence
 - C. Shifting Cultivation
 - D. Plantation
17. **The cultivation of fruits, flowers and vegetable is called**
- A. Apiculture
 - B. Pisciculture
 - C. Sericulture
 - D. Horticulture
18. **____ is cultivation of fruits and flowers**
- A. Agriculture
 - B. Horticulture
 - C. Sericulture
 - D. Viticulture
19. **the relatively small-scale production of fruits, vegetables and flowers as cash crops, frequently sold directly to consumers and restaurants**
- A. market gardening
 - B. plantation agriculture
 - C. mixed crop/livestock agriculture
 - D. shifting cultivation
20. **Focuses on horticulture (fruits, vegetables, flowers) for human consumption**
- A. Mixed Crop and Livestock
 - B. Dairying
 - C. Mediterranean
 - D. Commercial Gardening
21. **A traditional subsistence agricultural system in which the society follows the movement of livestock**
- A. ranching
 - B. pastoral nomadism

- C. mixed crop/livestock agriculture
D. shifting cultivation
22. **In ___ farming, land is used for growing food and fodder crops and rearing live-stock**
A. Mixed
B. Plantations
C. Subsistence
D. None of the above
23. **Growing specialized crops such as bananas, coffee, and cacao in tropical developing countries, primarily for sale to developed countries.**
A. ranching
B. plantation agriculture
- C. mixed crop/livestock agriculture
D. shifting cultivation
24. **Farming that involves low input of capital, material and labour with large amounts of land is ___**
A. Extensive farming
B. Intensive farming
C. Subsistence farming
D. Shifting cultivation
25. **Across the globe, more than ___ % of people are engaged in agriculture**
A. 25
B. 40
C. 50
D. 30

1.30 Plant Agriculture

1. **Which of the following is the earliest form of commercial fishing**
A. Pole fishing
B. Deep sea fishing
C. Coastal fishing
D. Long line fishing
2. **The Great Plains Shelterbelt was one of the public works programs instituted by Franklin Delano Roosevelt following the dust bowl. This is an massive example of ___**
a. Terracingb. Contour plowingc. Strip cropping
A. Terracing
B. Contour plowing
C. Strip cropping
D. A wind break
3. **Which of the following is high rates of bycatch and highly destructive of benthic communities**
A. Trawling
B. Pole fishing
C. Long line fishing
D. Deep sea fishing
4. **Why did farmers remove the prairiegrasses from the Southern Plains?**
A. They wanted to eat the grasses
B. They wanted to plant crops
C. the grasses caused dust storms
D. they grasses could be burned to heat homes
5. **It is the process of gathering mature plants from the fields and marks the end of the growing season of the crop.**
A. Marketing
B. Harvesting
C. Gathering
D. Selling

6. **Which of the following has the lowest rates of bycatch**
- Trawling
 - Long line fishing
 - Pole fishing
 - Coast fishing
7. **Which is true about aquaculturing?**
- a. The amount of aquacultured fish has decreased significantly in favor of wild-caught fish.
 - b. Aquaculturing requires the same inputs as other forms of animal agriculture, including feed and antibiotics.
 - aquaculture operations do not affect the surrounding ecosystem in any adverse way.
 - All of the above are true
8. **Which of these is false about the three staple crops? a. They make up the majority (about two-thirds) of human consumption. b. Corn (maize) is a staple crop. c. Rice is a staple crop. d. At least one of the staple crops is an animal product.**
- Coen (maize) is a staple crop
 - Rice is a staple crop
 - They make up the majority (about two-thirds) of human consumption
 - At least one of the staple crops is an animal product
9. **What are the 4 parts that make up soil?**
- Water, vegetation, mud, and rocks
 - Rocks, gravel, mud, and water
 - Air, mineral, water, and organic material
 - Mineral, air, mud, and dirt
10. **What restrictions are placed on fishing in marine reserves?**
- Fishing is not restricted in marine reserves.
 - Fishing is allowed, but only at levels below the maximum sustainable yield.
 - Fishing is allowed, but only species that are not endangered.
 - All harvesting of marine organisms is illegal in marine reserves.
11. **One reason soil could be blown away is because**
- farmers didn't take care of their farms.
 - winds were really strong.
 - animals dug up the dirt with their hooves.
 - so much planting eliminated grass that held it down.
12. **Which of these animals would be protected by the Marine Mammal Protection Act?**
- A shark living in international waters.
 - A dolphin living in the territorial waters of Brazil.
 - A beluga whale living in the exclusive economic zone of the United States.
 - A cod fish living off the coast of Alaska
13. **It is the process of growing plants and raising animals for food, clothing, and other useful products.**
- Agriculture
 - Animal Science
 - Agricultural Engineering
 - Agricultural Science
14. **It is the process of removing unwanted plants.**
- Crop filtering
 - Grass removal
 - Weeding
 - none of above

15. **When did the Dust Bowl take place?**
- A. 1920's
 - B. 1930's
 - C. 1940's
 - D. 1950's
16. **What is the best description of a biome?**
- A. An interdependent system of plants, animals, and land.
 - B. A system of trees, forests, and rivers.
 - C. A habitat where large numbers of animals live.
 - D. An area with significant amounts of rainfall.
17. **What does the word deciduous mean?**
- A. "to change color"
 - B. "to fall off"
 - C. "to decide"
 - D. "to change seasons"
18. **It is the initial cultivation of the soil in preparation for sowing seed or planting to loosen or turn the soil.**
- A. Ploughing
 - B. Soil Preparation
 - C. Leveling
 - D. Sowing
19. **Q:Which one is not a natural input in agriculture system?**
- A. Land
 - B. soil
 - C. climate
 - D. irrigation
20. **Which of the fish above were harvested from an aquaculture facility?**
- A. Swordfish
 - B. Yellow Fin Tuna
 - C. Yellowtail Flounder
 - D. Atlantic Salmon
21. **Which of the following has baited hooks are attached to a single fishing line that trails behind a ship**
- A. Pole fishing
 - B. Long line fishing
 - C. Trolling
 - D. Coastal fishing
22. **Which biome is characterized by low temperatures and low amounts of rainfall (and other precipitation)?**
- A. tundra
 - B. desert
 - C. temperate deciduous forest
 - D. tropical rain forest
23. **What two animals plagued the Plains?**
- A. Grasshoppers and Bumble Bees
 - B. Jackrabbits and Lady Bugs
 - C. Lady Bugs and Grasshoppers
 - D. Jackrabbits and Grasshoppers
24. **Which of the following is the order of soil particles from large to small?**
- A. Clay, silt, sand
 - B. Sand, silt, clay
 - C. Silt, clay, sand
 - D. Clay, sand, silt
25. **The United States has established annual catch limits to ensure fishing stocks can recover each year. Which of these statements best describes how these limits are established?**
- A. The catch limits are lower than the maximum sustainable yield.
 - B. The catch limits are equal to the maximum sustainable yield.

- C. The catch limits are greater than the maximum sustainable yield.
- D. Catch limits are based on consumer demand, not on the health of fish stocks.
26. **It is the artificial application of water to the land or soil.**
- A. Irrigation
- B. Propagation
- C. Revegetation
- D. Soil consolidation
27. **It is the process of crushing big lumps of soil that remains after ploughing.**
- A. Ploughing
- B. Soil Preparation
- C. Leveling
- D. Sowing
28. **What was done by the federal government to help protect the soil from wind erosion?**
- A. Planted trees and grass
- B. Build windmills nearby
- C. Stabilize the banking industry
- D. All of the choices
29. **"The produce from the farm is sold to higglers who then sell the food locally." This statement applies to: —**
- A. Commercial Farming
- B. Extensive Farming
- C. Peasant Farming
- D. none of above

1.31 Agricultural Science

1. **Fish-farming is also known as ____ and involves the breeding, raising, and/or harvesting of aquatic animals or the cultivation of aquatic plants for food.**
- A. Waterculture
- B. Aquaculture
- C. Fishculture
- D. Aquatic harvesting
2. **what is levelling and ploughing of the soil is called**
- A. levelling
- B. irrigation
- C. ploughing
- D. seed drill
3. **which of the following soil organisms is capable of converting atmospheric nitrogen into nitrates?**
- A. Fungi
- B. Viruses
- C. Bacteria
- D. Protozoa
4. **WHERE IS INCINERATION WIDELY USED**
- A. INDIA
- B. BAHARAIN
- C. SRI LANKA
- D. WESTERN COUNTRIES
5. **This is a fruit.**
- A. Maize
- B. Apple
- C. Rice
- D. none of above
6. **Which of the following is not considered a good agriculture practice?**
- A. Slash and burn
- B. Aerobic composting
- C. Cleaning and sanitizing
- D. High temperature treatment

7. **Aquatic organisms are the organisms that live**
- A. Inside the hole
 - B. On the land
 - C. On the tree
 - D. Inside the water
8. **A farmer is a ____**
- A. secondary producer
 - B. primary producer
 - C. tertiary producer
 - D. primary consumer
9. **Removal of dead parts of a growing plant to enable the plant grow well is known as ____**
- A. transplant
 - B. Pruning
 - C. Propagation
 - D. mulching
10. **Goat and cow gives ____**
- A. Milk
 - B. Tomato
 - C. Kerosene
 - D. none of above
11. **what are the examples of agricultural waste?**
- A. manure
 - B. oil
 - C. silage plastics
 - D. all of the above
12. **There are ____ types of arable farming**
- A. Three
 - B. Two
 - C. Four
 - D. none of above
13. **This part of the market determines DEMAND**
- A. buyers
 - B. sellers
 - C. suppliers
 - D. store owners
14. **Can we grow our food everyday?**
- A. Yes
 - B. No
 - C. True
 - D. none of above
15. **The water that contains little or no salt is ____**
- A. Well water
 - B. Fresh water
 - C. Salt water
 - D. All of the above
16. **The following are tools to be used during harvesting, EXCEPT**
- A. Cellophane
 - B. Sickle
 - C. Harrow
 - D. Plow
17. **____ is an instrument used for measuring weather condition.**
- A. Tape rule
 - B. Hygrometer
 - C. stetoscope
 - D. none of above
18. **The growing of crops and raising of animals is known ____**
- A. Horticulture
 - B. Agriculture
 - C. Farmer culture
 - D. none of above

19. **Weeds are controlled by chemicals called** ____
- A. Pesticides
 - B. Fungicides
 - C. Weedicides
 - D. Insecticides
20. **The following are fishes except**
- A. Tilapia
 - B. Shark
 - C. Whale
 - D. Salmon
21. **Credit which a borrower is expected to return in a year or less is termed ____ credit**
- A. short term
 - B. medium term
 - C. long term
 - D. institutional
22. **how much food waste makes up in U.S. landfills**
- A. 21 percent
 - B. 12 percent
 - C. 20 percent
 - D. 15 percent
23. **Group of farm animals reared on the farm are referred to as ____ animals.**
- A. wild
 - B. farm
 - C. home
 - D. bush
24. **Farmer's ____ are insects that destroys crops.**
- A. Friends
 - B. Child
 - C. Enemies
 - D. none of above
25. **What is the definition of aquaculture?**
- A. Form of aquaculture that includes cultivation, propagation and marketing
 - B. Plants that grow partially or wholly in water
 - C. The raising and harvesting of fresh and saltwater plants and animals
 - D. Capturing wild or shellfish including commercial and sport fishing
26. **What is the process by which plants get water called?**
- A. Eutrophication.
 - B. Autotrophs.
 - C. Photosynthesis.
 - D. Irrigation.
27. **An area where freshwater and saltwater meet is known as**
- A. Saltwater
 - B. Estuary
 - C. Freshwater
 - D. Ocean
28. **Which of the following is not a component of Agscience Foundation?**
- A. Science Club
 - B. FFA- Future Farmers of America
 - C. SAE- Specialized Agricultural Experience
 - D. Classroom Instruction
29. **Which is an example of an area of saltwater?**
- A. River
 - B. Ocean
 - C. Lake
 - D. Pond

30. **Oil crops are used for ____**
A. Stealing
B. fighting
C. cooking
D. none of above
31. **____ is the effect of unbalanced diet.**
A. sharp memory
B. kwashiorkor
C. malaria
D. none of above
32. **These are types of ponds except**
A. Vat
B. Earthen
C. Concrete
D. Whart
33. **A business owned and controlled by farmers who use it to create surplus earnings that are divided among members is BEST describe as**
A. A farmers' club
B. An agricultural bank
C. An agricultural cooperative
D. An agricultural cooperation
34. **Which of these is not a farm animal?**
A. Pig
B. Fish
C. Bee
D. Crocodile
35. **The science of preparing compost by the help of earthworms is called:-**
A. Aerobic Decomposition
B. Anaerobic Decomposition
C. Vermiculture
D. None of these
36. **Why are eggs kept in incubators?**
A. to be kept from breaking
B. to be hid from predators
C. to be counted
D. to be kept at the body temperature of the hen
37. **zamindari system was in India during ____ period**
A. government
B. British
C. none of these
D. none of above
38. **A type of loan in kind is ____**
A. awareness
B. seed
C. visit
D. applause
39. **A seed can germinate into ____**
A. Plant
B. Prose
C. Pail
D. none of above
40. **It is the study of plants and animals that will be useful to humans**
A. Physiology
B. Botany
C. Agricultural Science
D. Marine Science
41. **Tomatoes, beans and melons are typical crops in ____**
A. Dry farming
B. Irrigated farming
C. Extensive farming
D. none of above

42. **The young goat is called ____**
A. Nanny
B. Buck
C. Kid
D. none of above
43. **What are agricultural objects?**
A. Agricultural objects are objects used for agriculture.
B. Agricultural objects are objects that you can eat.
C. Agricultural objects are objects that are small.
D. none of above
44. **What is Apiculutre?**
A. Rearing of snails
B. Rearing of Bees
C. Rearing of Fish
D. none of above
45. **These are the plants that can live for several years and may produce seeds each year but do not die with seed production.**
A. Annual
B. Biennial
C. Perennial
D. Seasonal
46. **The manual method of sowing seeds is also known as:**
A. Winnowing
B. Irrigation
C. Transplantation
D. Broadcasting
47. **When quantity supplied and quantity demanded is equal**
A. surplus
B. shortage
C. equilibrium
D. law of demand
48. **A group of buyer and sellers of a particular good or service**
A. Supply
B. Demand
C. Agency
D. Market
49. **If a price is above equilibrium price, it creates a ____**
A. shortage
B. surplus
C. market price
D. demand
50. **A ____ is a plant, fungus, or alga that is grown and harvested for food, clothing, livestock feed, biofuel, medicine, or other uses.**
A. Fiber
B. Textile
C. Crop
D. Farm
51. **Which one of the following is not true for pulses?**
A. Pulses are grown in both rabi and kharif season
B. Pulses are leguminous crops
C. They are grown in rotation with other crops
D. Pulses require intensive irrigation facilities
52. **An example of fish found in estuaries is**
A. sting ray
B. sawfish
C. shark
D. mudfish

53. **what help in uniform mixing of fertilisers**
A. water
B. seed drill
C. plough
D. leveler
54. **Aquatic animals include the following except**
A. Elephant
B. Oyster
C. Shrimp
D. Fish
55. **Thermometer is used for measuring ____ of a weather condition.**
A. storm
B. temperature
C. wind
D. none of above
56. **Iberian pig farming is an example of ____**
A. Intensive farming
B. Extensive farming
C. Irrigated farming
D. none of above
57. **Hides and skin from farm animals can be used for making ____**
A. chair
B. table
C. bags
D. shelf
58. **The study of organisms and their interactions with each other and their environment.**
A. Zoology
B. Ecology
C. Botany
D. Animal Husbandry
59. **The organic matter in soil is ____**
A. humus
B. bits of rock
C. minerals
D. all of the above
60. **Which colour dustbin is used for disposing bio-degradable waste?**
A. Green
B. Blue
C. Red
D. Yellow
61. **These are all examples of poultry animals except ____**
A. geese
B. turkey
C. bats
D. none of above
62. **Dry farming and Irrigated farming are two types of ____**
A. Livestock farming
B. Fishing
C. Arable farming
D. none of above
63. **Mulching is also known as ____**
A. Soil rotation
B. Cultivation
C. Soil cover
D. Cropping
64. **what is agriculture**
A. the science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products.
B. the science of farming
C. the science of technology
D. all of the above

65. **Type of farming practised to meet the needs of farmers family is ___ farming**
A. Commercial
B. Shifting cultivation
C. Subsistence
D. Mixed
66. **Salting, sun drying, bottling, refrigerating are all ___ of farm produce preservation.**
A. effects
B. agents
C. methods
D. importance
67. **___ crops are used for beautifying the environment.**
A. Ornamental
B. Flower
C. Cash
D. none of above
68. **Suggest a reasons why a loan application can be denied**
A. business plan present
B. Having Collateral/assest
C. Expenses supersedes one's income
D. none of above
69. **___ is an element of weather.**
A. wind
B. Water
C. Moon
D. none of above
70. **The science of the earth's water and its movement.**
A. Oceanography
B. Geology
C. Hydrology
D. Hydrology
71. **Chicken is used to produce ___ and ___**
A. Egg and meat
B. Egg and cheese
C. Milk and meat
D. none of above
72. **Classification of plant which life cycle is completed in one season only.**
A. Annual
B. Biennial
C. Perennial
D. Seasonal
73. **Poultry means ___**
A. all birds.
B. birds kept around people for food or as pets.
C. birds in the wild.
D. only birds that can fly.
74. **Which if the following is most likely reason for proliferation of predial larceny in the caribbean**
A. The fines are too small
B. There are no laws against it
C. It is difficult to catch a person committing the act
D. Vendors do not have to show origin of farm produce
75. **A young lion is ___**
A. Boar
B. Kid
C. Cub
D. none of above
76. **Identify 2 other examples of soil erosion**
A. splash erosion and run off erosion
B. run off erosion and gully erosion
C. splash erosion, gully erosion
D. none of above

77. **They are grown in areas receiving ____ rainfall.**
- A. scanty
 - B. heavy
 - C. light
 - D. none of above
78. **____ is a raw material used to make chocolate.**
- A. Cocoa
 - B. Corn
 - C. Wood
 - D. Leather
79. **Grenada is responsible for more than 20% of the world's production of ____**
- A. sugar cane
 - B. citrus fruits
 - C. nutmeg
 - D. coffee
80. **Which of the following is considered a conventional farming system**
- A. Organic farming
 - B. Aquaponic
 - C. Contour farming
 - D. Large highly mechanized plantation
81. **Classification of plant that requires two season to attain development, mature seeds and die.**
- A. Annual
 - B. Biennial
 - C. Perennial
 - D. Seasonal
82. **Which of the following is NOT true of complete budget?**
- A. Provide an estimate of net farm income
 - B. Provide an estimate of farm expenditure
 - C. Contains only some items of income and expenditure
 - D. Can be use to compare profitability of the farm plans
83. **____ is an agrarian country.**
- A. Kerala
 - B. Tamil Nadu
 - C. India
 - D. Gujarat
84. **The bedding material spread on the floor of a chicken house is known as a ____**
- A. coop
 - B. litter
 - C. comb
 - D. none of above
85. **Which gas is produced when organic agricultural waste undergoes anaerobic decomposition?**
- A. Hydrogen
 - B. Helium
 - C. Oxygen
 - D. Methane
86. **The viral respiratory disease common in poultry is known as ____ disease.**
- A. yellow castle
 - B. ebola
 - C. new castle
 - D. none of above
87. **Which chemical controls pests**
- A. Fertiliser
 - B. Pesticide
 - C. Herbicide
 - D. Fungicide

88. **Which of the following commodities is imported into the United States?**
- A. Wheat
 - B. Apples
 - C. Cotton
 - D. Coffee Beans
89. **Which of the following are benefits of organic farming? I Biodiversity II Income to farmers III Ecological balance**
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III
90. **The study of insects is ____**
- A. Entomology
 - B. Hydrology
 - C. Biotechnology
 - D. Insectology
91. **Man learnt ____ by understanding nature.**
- A. Food
 - B. Agriculture
 - C. Eating
 - D. none of above
92. **the amount paid on borrowed capital is termed ____**
- A. credit
 - B. subsidy
 - C. interest
 - D. cash
93. **Farmers give the animals food in ____**
- A. Arable farming
 - B. Extensive farming
 - C. Intensive farming
 - D. none of above
94. **Animals that possess only one stomach are called ____**
- A. ruminants
 - B. polygastric
 - C. farm animals
 - D. monogastric
95. **WHICH OF THE FOLLOWING IS NOT A TREATMENT PROCESS?**
- A. COMPOSTING
 - B. RECYCLING
 - C. NONE OF THE ABOVE
 - D. INCINERATION
96. **A farmer has 5 cat fish and 5 tilapia, how many fish(es) does he have altogether?**
- A. 10 fish
 - B. 15 fish
 - C. 10 fishes
 - D. 15 fishes
97. **The following are bony class of fishes except**
- A. Tilapia
 - B. Sawfish
 - C. Koi fish
 - D. Catfish
98. **While food processing changes raw ingredients to usable consumables food preservation ____**
- A. processes farm produce
 - B. grinds farm produce
 - C. keeps farm produce from decay
 - D. keeps farm produce from families
99. **All these are importance of mulching except ____**
- A. To harm plants
 - B. To enrich the soil
 - C. To prevent the growth of weeds
 - D. To protect the soil from ha

100. **Which item should NOT be worn while performing a science activity?**
- A. loose or baggy clothing.
 - B. closed shoes.
 - C. aprons.
 - D. safety glasses.
101. **The study of living things.**
- A. Entomology
 - B. Anatomy
 - C. Biology
 - D. Horticulture
102. **The organic substance obtained from dead plants and animal wastes is**
- A. Manure
 - B. Fertilizer
 - C. Irrigation
 - D. Agriculture
103. **A market for raising medium and long term loans for agricultural business is called ____ market**
- A. financial
 - B. home
 - C. capital
 - D. farm
104. **The science of raising and managing animals for production and pleasure.**
- A. Social Science
 - B. Agronomy
 - C. Ecology
 - D. Animal Science
105. **Habitat is where organisms ____**
- A. Sleep
 - B. Eat
 - C. Live
 - D. Stand
106. **Which of these crops is NOT a vegetable?**
- A. Potato
 - B. carrot
 - C. apple
 - D. none of above
107. **____ is an animal around your surrounding.**
- A. Hyena
 - B. Goat
 - C. Lion
 - D. none of above
108. **A group of fish(es) is called**
- A. School
 - B. Aquarium
 - C. Gear
 - D. Pond
109. **The Practice of growing and managing plants for beauty or food.**
- A. Horticulture
 - B. Botany
 - C. Agronomy
 - D. Animal Science
110. **Which of the following methods were early humans primarily dependent on for their source of food, clothing and shelter?**
- A. Hunting and gathering
 - B. Farming
 - C. Ranching
 - D. Foraging
111. **The crops only get water when it rains in ____**
- A. Dry farming
 - B. Livestock farming
 - C. Irrigated farming
 - D. none of above

112. __, __ and __ are some of the millets grown in India.
- A. jowar, bajra and ragi
 - B. garo, khasi and jainta
 - C. jaintal, naintal and ranikhet
 - D. none of above
113. All these are examples of mulch or materials used for mulching/ soil covering except ____
- A. Sticks
 - B. saw dust
 - C. grass
 - D. rice
114. Which State is the largest producer of bajra?
- A. Rajasthan
 - B. Maharashtra
 - C. Gujarat
 - D. Haryana
115. A bioterrorism attack on agriculture may result in I an increase in food price II destruction of ecological habitat III destabilization of a system of food security
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III
116. The three major cropping seasons of India are:
- A. Aus, Aman and Boro
 - B. Rabi, Kharif and Zaid
 - C. Baisakh, Paus and Chait
 - D. None of the above
117. Which of the following is most likely associated with crop growth in wet climate condition
- A. Plants are hardier than normal
 - B. Disease outbreak is normally high
 - C. Yield per acre is usually higher than normal
 - D. Irrigation is normally a major concern
118. If a price is below the equilibrium price it creates a ____
- A. shortage
 - B. surplus
 - C. market price
 - D. supply
119. We also get our food from animals.
- A. No
 - B. Yes
 - C. Never
 - D. none of above
120. A short season between the rabi and kharif season is known as:
- A. Aus
 - B. Boro
 - C. Zaid
 - D. None of the above
121. ____ is an example of crop grown in our environment.
- A. Maize
 - B. Egg
 - C. Milk
 - D. none of above
122. ____ is the regular pattern of weather condition of a particular place.
- A. Cloud
 - B. Climate
 - C. Rainfall
 - D. none of above

123. ____ **is a root tuber.**
- A. grain
 - B. yam
 - C. onions
 - D. none of above
124. **Tiger is a ____ animal.**
- A. Domestic
 - B. Wild
 - C. Wide
 - D. none of above
125. **Which of the following summarizes the principles of the Economic Partnership Agreement (EPA)?**
- A. Protection of European Union (EU) trade markets
 - B. Global integration for African Caribbean and Pacific (ACP) countries
 - C. Reciprocal trade between ACP and countries in the EU
 - D. Free movement of skilled workers in CARICOM member state
126. **Mother lamb is called ____**
- A. Sheep
 - B. Stallion
 - C. Wild
 - D. none of above
127. ____ **is the condition of the atmosphere of a particular place over a period of time.**
- A. Weather
 - B. Temperature
 - C. Climate
 - D. none of above
128. **All these are parts of plant that can be pruned except ____**
- A. Branches
 - B. Tuber
 - C. roots
 - D. Stem
129. **A naturally occurring material or component that is valuable to people, plants, and wildlife is a ____ Examples of this include: Soil, Water, Wind, Natural gas, Oil, Wood, etc.**
- A. Agriculture
 - B. Commodities
 - C. Natural Resources
 - D. Environment
130. **A terrestrial farm animal is**
- A. fish
 - B. crab
 - C. cattle
 - D. shrimp
131. **Which of the following is not a topic of Agriscience?**
- A. genetics
 - B. pollution
 - C. Integrated Pest Management
 - D. Social Science
132. **The young hen is called ____**
- A. Hen
 - B. Chick
 - C. Puppy
 - D. none of above
133. **Legumes are especially important on organic crop farm because legumes**
- A. Are easy to cultivate
 - B. Provide a good cover
 - C. Promote nitrogen fixation
 - D. Have a high market demand

134. **Which of the following pulses is a rabi crop?**
- A. Udad
 - B. Mung
 - C. Gram
 - D. Math
135. **How can agricultural waste be used to improve soil quality**
- A. By creating compost from agro wastes
 - B. By using left over slurry after biogas generation
 - C. Both A and B
 - D. A but not B
136. **___ is a factor affecting humidity.**
- A. Time
 - B. People
 - C. Animals
 - D. none of above
137. **These are the substitute crops planted too late for regular crops or after the regular crops has failed.**
- A. Catch crops
 - B. Silage crops
 - C. Cover crops
 - D. Foliage crops
138. **how much supply is lost or wasted each year**
- A. 12 percent
 - B. 30 percent
 - C. 15 percent
 - D. 45 percent
139. **___ is also called aqua-farming or fish-farming and involves harvesting aquatic animals and plants for food and other products.**
- A. Waterculture
 - B. Aquaculture
 - C. Fishculture
 - D. Aquatic harvesting
140. **Climate which favours agriculture**
- A. Hot and humid
 - B. Dry and cold
 - C. Hot and dry
 - D. Moist and low temperature
141. **This part of the market determines SUPPLY**
- A. buyers
 - B. sellers
 - C. consumers
 - D. us
142. **A homogeneous RAW or PRIMARY agricultural product (how it comes off the farm) is called a commodity. Examples of a commodity include:**
- A. grain, precious metals, oil, beef, and wheat.
 - B. Bacon, corn chips, bread, gasoline, cheese
 - C. pressed steal, fruit salad, natural gas
 - D. ketchup, mustard, mayonnaise, and zombies.
143. **A government of a Caribbean country provides farmers with a rebate of 25% of the purchase price of agriculture equipment. Which of the following term describe this agreement?**
- A. Tax break
 - B. Subsidy
 - C. Insurance
 - D. Price support

144. **The catching and growing of fish and other aquatic food organisms in water is termed**
- A. Fishing
 - B. Fishes
 - C. Feeding
 - D. Fishery
145. **What are the two types of cattle?**
- A. Laying and Meat
 - B. Beef and Dairy
 - C. Pullet and Pork
 - D. Swine and Livestock
146. **To prevent natural process of decay is one of the importance of ____**
- A. food processing
 - B. food storage
 - C. food preparation
 - D. food production
147. **Which of the following are plantation crops?**
- A. Rice and maize
 - B. Wheat and pulses
 - C. Tea, coffee, banana and sugarcane
 - D. None of the above
148. **Interest, depreciation, insurance and taxes are all examples of**
- A. Capital
 - B. Fix cost
 - C. Variable cost
 - D. Actual cost
149. **Which is the right condition for the growth of maize?**
- A. Temperature between 21 °C to 27°C and old alluvial soil
 - B. Temperature below 17°C and shallow black soil
 - C. Temperature of 25°C and 200 cm of rainfall
 - D. None of the above
150. **The alterations or changing of raw ingredients into usable consumables is called ____**
- A. food production
 - B. food/farm produce processing
 - C. farm produce manufacturing
 - D. food storage
151. **Cattle is a ____**
- A. Water
 - B. Animal
 - C. Broom
 - D. none of above
152. **Which state produces maximum ground-nut?**
- A. Kerala
 - B. Tamil Nadu
 - C. Madhya Pradesh
 - D. Gujarat
153. **One of these methods of food preservation involves natural sunlight to aid the process of food preservation**
- A. bottling
 - B. sun drying
 - C. frying
 - D. canning
154. **what does agriculture not include**
- A. farming
 - B. slaughter
 - C. processing
 - D. none of above

155. **Before you leave the science room, you should..**
- A. wash your hands
 - B. clean your work area.
 - C. return all of your materials properly.
 - D. .all of the answers.
156. **Removal or decreasing of food nutrients is one of the ____ of food processing on foods.**
- A. importance
 - B. effects
 - C. process
 - D. steps
157. **ploughing can be done by**
- A. using a plough
 - B. using a leveller
 - C. using a water
 - D. using seed
158. **An example of an aquatic plant is:**
- A. Shrimp
 - B. Water hyacinth
 - C. Lobster
 - D. Crayfish
159. **When we talk about a good that is sold for a profit it is called ____**
- A. Service
 - B. Income
 - C. Commodity
 - D. Import
160. **Fruit crops usually contain**
- A. acid
 - B. Vitamin C
 - C. Vitamin Z
 - D. none of above
161. **A duty of a farm labourer is ____**
- A. ploughing the fields.
 - B. to find new ways to grow plants for food.
 - C. to treat diseases in plants.
 - D. to carry out cross-breeding experiments.
162. **WHICH PLANT THOSE NOT GROW BY ROOT**
- A. CARROT
 - B. SWEET PATATO
 - C. GINGER
 - D. BETROOT
163. **Which of these stomach compartments in polygastric are referred to as 'true stomach'?**
- A. Rumen
 - B. Reticulum
 - C. Omasum
 - D. Abomasum
164. **Which method, according to you, can bring about the maximum increase in crop production in our country in future?**
- A. Increasing land under cultivation
 - B. Using more manures and fertilisers
 - C. Less wastage in storage
 - D. Using better varieties of crop plants
165. **The price of Yam fell from \$5 to \$20 per kg within the last month. suggest a reason for such**
- A. The supply of yam is lower than the demand
 - B. The supply of yam is greater than the demand
 - C. consumers love the taste of yam
 - D. none of above

166. **Wool and leather are example of ____**
A. food products
B. non-food products
C. animals
D. none of above
167. **what is levelling**
A. sowing seed
B. give a flat and even surface to
C. turn up the earth of (an area of land) with a plough, especially before sowing.
D. a device used in agriculture that sows seeds for crops by positioning them in the soil and burying them to a specific depth.
168. **Example of a non-ruminant is**
A. pig
B. cattle
C. sheep
D. goat
169. **Household kitchen waste can contribute bio gas generation?**
A. Yes
B. No
C. Maybe
D. none of above
170. **agriculture is a main occupation in India**
A. false
B. true
C. only rice
D. none of above
171. **These are ways of maintaining fish ponds except**
A. de- weeding
B. regular harvesting
C. acidification
D. oxygen management
172. **In agriculture production happens where?**
A. on the farm
B. in a factory
C. in a grocery store
D. in a bucket
173. **Which of these institutions is not involved in capital market?**
A. Commercial banks
B. Insurance companies
C. Stock exchange
D. Family
174. **the bank that provides loan to farmers**
A. AXIS
B. NABARD
C. RBI
D. ATM
175. **WHICH OF THE FOLLOWING IS NOT A AGRO -WASTE?**
A. PHOSPHORUS AND CALCUIM
B. MEAT
C. ANIMAL DUNK
D. FUEL
176. **Primitive subsistence farming is also known as:**
A. (a) Subsistence farming
B. (b) Commercial farming
C. Slush and Burn
D. (d) None of the above
177. **Broilers are kept:**
A. for laying eggs as food.
B. for laying eggs and being eaten.
C. for meat production.
D. to produce eggs for hatching.

178. **GMO stands for ____**
- A. Generally Made Organic
 - B. Genetically Modified Organism
 - C. Genetic Mutation Omission
 - D. None of these.
179. **what is the biggest seed**
- A. conconut
 - B. apple
 - C. orange
 - D. none of above
180. **One of these enables farm produce stay longer.**
- A. food processing and preservation
 - B. food storage and keeping
 - C. food production and selling
 - D. food sampling and display
181. **The following are salt water fishes except**
- A. Sting Ray
 - B. Sawfish
 - C. Shark
 - D. Tilapia
182. **In which of the following farming types, the chemical fertilizers and insecticides are not used?**
- A. Organic farming
 - B. Plantation
 - C. Mixed farming
 - D. Sustainable farming
183. **All are specialist in the Areas of Agriculture except**
- A. Animal Scientist
 - B. Crop Scientist
 - C. Agri-extension
 - D. none of above
184. **For the law of demand, as price rises, what happens to quantity demanded?**
- A. it goes up
 - B. it goes down
 - C. it stays the same
 - D. it is not effected
185. **Gills are used for**
- A. Breathing
 - B. Locomotion
 - C. Feeding
 - D. Vision
186. **Which is not a seed dispersal**
- A. water
 - B. wind
 - C. animals
 - D. soil
187. **Which one of these does not come under agricultural waste?**
- A. Animal Dung
 - B. Sugarcane Bagasse
 - C. Cardboard
 - D. Weeds
188. **Planting seeds in a ploughed land is known as ____**
- A. Sewing
 - B. Seeing
 - C. Sowing
 - D. Sown
189. **Name one implement used in secondary tillage**
- A. machete workers
 - B. bullock drawn
 - C. drill press
 - D. none of above

190. **A person who owns and manages a farm where animals are raised for their milk and meat is known as a ____**
- A. Poultry farmer
 - B. poultry farming
 - C. livestock farmer
 - D. none of above
191. **An example of a fish is**
- A. Shrimp
 - B. Salmon
 - C. Lobster
 - D. Jellyfish
192. **One of these is an example of pruning.**
- A. Trimming of flowers
 - B. Covering of plants
 - C. Transplanting
 - D. Propagation
193. **Virginia is broken down into how many regions Agriculturally?**
- A. 2
 - B. 3
 - C. 4
 - D. 5
194. **About two-third of the Indians are engaged in ____**
- A. farming
 - B. forestry
 - C. fishing
 - D. none of above
195. **Which of the following is not considered a factor of production?**
- A. Land
 - B. Labour
 - C. Capital
 - D. Water
196. **in intensive farming**
- A. yield is low
 - B. implements are old
 - C. land is big
 - D. profit less
197. **A mixed fertilizer Grade id 15:35:10 contain 60% plant nutrients. the other 40% of the fertilizer is referred to as**
- A. Side dressing
 - B. Top dressing
 - C. Carrier
 - D. Granules
198. **who is the agriculture minister**
- A. Shri Narendra Singh Tomar
 - B. Shri Arjun Munda
 - C. Edappadi K. Palaniswami
 - D. none of above
199. **The farmer grows the plant on ____**
- A. Soil
 - B. Ground
 - C. Field
 - D. none of above
200. **All these fishes are freshwater fishes except ____**
- A. Tilapia
 - B. Catfish
 - C. Carp
 - D. Mackerel
201. **Fibers are thin threads of natural or artificial material that can be used to make cloth, paper. Examples are ____**
- A. hemp and jute
 - B. cotton and cashmere
 - C. wool and silk
 - D. All of these are fibers.

202. **Protective clothing helps to prevent contamination when spraying pesticides with a knapsack sprayer. These includes**
- A. overall, dust pan, waterboots, mask
 - B. dust mask, spray pan, gloves, shoes
 - C. glasses, gloves, waterboots, mask, coverall
 - D. none of above
203. **ALL ARE IMPORTANCES OF AGRICULTURE EXCEPT**
- A. FOOD
 - B. SHELTER
 - C. Stunts
 - D. Foreign Exchange
204. **What is a Fish?**
- A. plant that grows partially or wholly in water
 - B. aquatic invertebrate with a shell
 - C. aquatic vertebra with fins
 - D. aquatic arthropods with modified appendages
205. **Indian economy is based on ____**
- A. milk
 - B. farming
 - C. Agriculture
 - D. none of above
206. **The following are not uses of fish except**
- A. Ladden crude
 - B. Isoglass
 - C. Salt
 - D. Capsule
207. **Nursery plants are grown in the ____**
- A. garden
 - B. Nursery
 - C. farm
 - D. Barn
208. **The process of keeping farm produce from decay or spoilage is known as ____**
- A. farm produce keeping
 - B. farm produce preservation
 - C. farm produce processing
 - D. farm produce production
209. **Arable farming is ____**
- A. the cultivation of crops
 - B. the raising of animals
 - C. the raising of pigs
 - D. none of above
210. **Which of the following refers to the products produced for a source of income?**
- A. income crops
 - B. Gross crops
 - C. Harvest crops
 - D. Cash crops
211. **A fish that just hatched from egg is called ____**
- A. Juvenile
 - B. Fingerlings
 - C. Fry
 - D. Post-juvenile
212. **Suggest one safety check which should be performed on the knapsack sprayer before it is used.**
- A. check for cleanliness
 - B. check for leakage
 - C. check for odor
 - D. none of above
213. **____ is the staple food of our country India.**
- A. Maize
 - B. Rice
 - C. Sugar cane
 - D. Wheat

214. **Wind vane is used for measuring ____ capacity of a weather condition.**
- A. Wind
 - B. Rain
 - C. Storm
 - D. none of above
215. **Which of the following van be considered roles of agriculture in the economy of Caribbean territories? I Contribution to GDP II Reduce the region food import bill iii Securing foreign exchange**
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III
216. **Which of the following chemicals is used by farmers to protect their crops from pests?**
- A. Pesticides
 - B. Fertilisers
 - C. Weedicides
 - D. Artificial Manure
217. **All these are methods of farm produce preservation except ____**
- A. canning
 - B. salting
 - C. packing
 - D. bagging
218. **Which of these is not an agricultural subsidy?**
- A. Fertilizer
 - B. Cash
 - C. Chemicals
 - D. Improved seed
219. **The study of the environment in which we live (air, water, soil)**
- A. Agronomy
 - B. Earth Science
 - C. Entomology
 - D. Botany
220. **The #1 commodity in the state of Virginia is?**
- A. Apples
 - B. Turkeys
 - C. Broilers
 - D. Cotton
221. **WHAT ARE THE DRAWBACKS OF IMPROPER AGRO -WASTE MANAGMENT?**
- A. GOBAL WARMING
 - B. FEILD FILLING
 - C. MOSQUITO GENERATED DISEASES
 - D. ALL OF THE ABOVE
222. **The zone of the ocean and water body that is between bottom of the sea and the surface is known as**
- A. Coral
 - B. Reef
 - C. Pelagic
 - D. Demersal
223. **When you sell a good to a buyer, the buyer is called a ____**
- A. Seller
 - B. Buyer
 - C. Producer
 - D. Consumer
224. **For the law of supply, as price rises, what happens to quantity supplied?**
- A. it goes up
 - B. it goes down
 - C. it stays the same
 - D. it is not effected

225. **The science of agriculture includes**
- A. Management of plants and animals
 - B. Management of plants
 - C. Management of animals
 - D. Management of humans.
226. **Apart from farming, which of the following activities are also a part of agriculture?**
- A. All of these
 - B. Forestry
 - C. Poultry Rearing
 - D. Fruit cultivation
227. **Fixed capital describe inputs such as**
- A. Feed, chemicals and cash
 - B. Tractor, sprayers and seed
 - C. buildings, machinery and land
 - D. Labour, management and tools
228. **___ runs on electricity or diesel**
- A. sprinkler
 - B. dug wells
 - C. fertilizers
 - D. pesticides
229. **Which one of the following crops is a beverage crop?**
- A. Tea
 - B. Coffee
 - C. Wheat
 - D. Both a and b
230. **Ruminants are majorly ___**
- A. carnivores
 - B. herbivores
 - C. omnivores
 - D. filter feeders
231. **Fiber crops are used for ___**
- A. Speech
 - B. cloth
 - C. transport
 - D. none of above
232. **Define the term 'dressing percentage'**
- A. The percentage of the live animal weight that becomes the carcass weight at slaughter
 - B. The percentage of the dead animal weight that becomes the carcass weight at slaughter
 - C. The percentage of the body animal weight that becomes food instead of fat
 - D. none of above
233. **The process of sitting on eggs for the period of twenty- one days by the female chicken is known as ___**
- A. cubation
 - B. incubation
 - C. hatching
 - D. none of above
234. **Another name for livestock farming is ___**
- A. animal farming
 - B. animal husbandry
 - C. poultry farming
 - D. none of above
235. **the government help farmers become become independent by ___ bank**
- A. regional bank
 - B. rural bank
 - C. both a & b
 - D. none of these

236. ____ is recognised as a powerful supplement in inventing new hybrid varieties of seeds.
- A. Food Corporation of India
 - B. Genetic Engineering
 - C. Cash Crop
 - D. none of above
237. The cultivation of crops alone is known as ____ farming.
- A. Arable
 - B. Livestock
 - C. Mixed
 - D. none of above
238. Which one of the following is announced by the government in support of a crop?
- A. Maximum support price
 - B. Minimum support price
 - C. Moderate support price
 - D. Influential support price
239. Weathering is ____
- A. rocks, grass, and mud.
 - B. the breakdown of rocks into smaller pieces
 - C. the breakdown of wind, rain, and friction
 - D. the weather outside
240. Which of the following methods of farming enables farmers to grow different crops on the same land, from time to time?
- A. Crop rotation
 - B. Drip irrigation
 - C. Crop cultivation
 - D. Ploughing
241. If Mrs. Berlauk buys a candy bar and gives it to Mr. Pienaar who eats it, who is the consumer?
- A. Mrs. Berlauk
 - B. Mr. Pienaar
 - C. Both
 - D. Neither
242. Temperature is a factor of ____
- A. Forest
 - B. Wind
 - C. Climate
 - D. none of above
243. what are the things we cannot recycle to make compost?
- A. manure
 - B. straw
 - C. plastic
 - D. none of above
244. The process of moving plants from a temporary place to another permanent place is ____
- A. Propagation
 - B. Transplanting
 - C. Planting
 - D. Pruning
245. ____ is the process of loosening and turning of the soil.
- A. Threshing
 - B. Ploughing
 - C. Levelling
 - D. Manuring.
246. Which of the following crops is a major source of protein in a vegetarian diet?
- A. Wheat
 - B. Rice
 - C. Pulses
 - D. Oilseeds

247. **Loans obtained by farmers to start or expand their farming business is called ____**
A. credit
B. subsidy
C. interest
D. income
248. **Mineral is one of the ____ of food.**
A. classes
B. uses
C. bad
D. none of above
249. **Farmers raise their livestock in large fields in ____**
A. Extensive farming
B. Intensive farming
C. Dry farming
D. none of above
250. **The federal (government) department responsible for developing and executing federal laws related to farming, agriculture, forestry, food, nutrition, and rural development is the ____**
A. USDA
B. FDA
C. School Food Program
D. CTE
251. **Fishes can be classified based on i. Habitatii. Tasteiii. Sizeiv. Morphology**
A. i and ii
B. i and iv
C. i, ii and iii
D. iii and iv
252. **The branch of agriculture that uses cut flowers to make arrangements is called ____**
A. Floriculture
B. Crops
C. Livestock
D. Business
253. **Which of the following is rich in organic nutrients?**
A. Potash
B. Ammonium Sulphate
C. Urea
D. Compost
254. **Which of these is a tuber crop?**
A. Rice
B. yam
C. millet
D. none of above
255. **The two main wheat growing regions are:**
A. The Ganga-Sutlej plains and the Deccan Trap
B. North-eastern part and eastern-coastal plains
C. Deccan plateau and Konkan coast
D. None of the above
256. **A companion animal is also known as a ____**
A. Livestock Animal
B. Crop
C. Mammal
D. Pet
257. **Two raw materials from cattle include ____ and ____**
A. leather and wool
B. milk and mutton
C. leather and pork
D. dairy and leather

258. **What is the outer coat of the seed**
A. seed coat
B. baby plant
C. steam
D. peel
259. **Polygastrics possess ____ stomach chambers.**
A. two
B. three
C. four
D. five
260. **What is 1 commodity that is supported by aquaculture?**
A. shrimp
B. cattle
C. polar bears
D. lettuce
261. **The best soil for farming is ____**
A. clay soil
B. Sandy soil
C. loamy soil
D. mixed soil
262. **It is the process of planting seeds.**
A. Initial planting
B. Seeding
C. Leveling
D. Sowing
263. **What is meant by the term 'mixed farming'?**
A. Growing of crops as well as the growing of horticultural crops
B. Growing of crops as well as the raising of livestock
C. Rearing animals ONLY
D. Growing crops ONLY
264. **All are importance of food processing except ____**
A. improves usage
B. causes scarcity in farm produce
C. increase in self life of some farm produce
D. prevents loss of farm produce
265. **If a fire erupts in the classroom you should quickly ____**
A. open the window.
B. run out the room.
C. tell the teacher.
D. get the fire blanket.
266. **VDACS was founded in ____**
A. 1999
B. 2002
C. 1877
D. 1977
267. **The main food crop of Kharif season is:**
A. Mustard
B. Pulses
C. Rice
D. Wheat
268. **Farm animals can be grouped into these classes except**
A. mode of activity
B. habitat
C. nature of digestive tract
D. uses
269. **The use of biological processes for industrial and other purposes.**
A. Biotechnology
B. Chemistry
C. Animal Science
D. Hydrology

270. ____ fish live close to the floor of the sea or a lake
- A. Pelagic
 - B. Trawling
 - C. Demersal
 - D. Line
271. After the creation of Biogas the left over Slurry is used as an excellent fuel as it is rich in:-
- A. Oxygen and Carbon- di- oxide
 - B. Oxygen and Water vapour
 - C. Hydrogen and Helium
 - D. Nitrogen and Phosphorus
272. Which of the following is not correct about plantation farming?
- A. In this type of farming, a single crop is grown on a large area.
 - B. The plantation has an interface of agriculture and industry.
 - C. Plantations cover large tracts of land called estates.
 - D. Farmers clear a patch of land by felling trees and burning them, to produce cereals and other food crops.
273. Fruit crops produce ____
- A. Vegetables
 - B. fruits
 - C. carbohydrates
 - D. none of above
274. These are all examples dairy animals except ____
- A. cattle
 - B. poultry
 - C. sheep
 - D. none of above
275. the preparation of soil is done by ____ main techniques
- A. two
 - B. one
 - C. three
 - D. four
276. The following are activities that should be carried out to establish a fish pond except
- A. land survey
 - B. site selection
 - C. de - silting
 - D. liming
277. Which of these is not a source of farm finance?
- A. Agricultural banks
 - B. Commercial banks
 - C. Money lenders
 - D. Schools
278. One implication of farm credit is ____
- A. Lack of farm record
 - B. predictable climate
 - C. large farm holdings
 - D. insurance policy
279. Which order of important steps in rearing chickens is correct?
- A. incubation-debeaking and vaccination-watering and feeding-slaughtering-changing litter
 - B. debeaking and vaccination-watering and feeding-incubation-changing litter-slaughtering
 - C. incubation-watering and feeding-debeaking and vaccination-changing litter-slaughtering
 - D. watering and feeding-incubation-debeaking and vaccination-changing litter-slaughtering

280. **Plant science is also called ____ and is the scientific study of plants.**
- A. Botany
 - B. Soil science
 - C. Cropology
 - D. Cultivation
281. **Plants grown under shaded conditions are likely to affect plant growth and development by all the following EXCEPT**
- A. Reduces the rate of growth,
 - B. Less rain water
 - C. Disrupts the soil around the plants hence reducing the plant growth
 - D. Affects photosynthesis
282. **The act of covering the soil with materials in order to protect it from harm is known as ____**
- A. pruning
 - B. mulching
 - C. Erosion
 - D. Propagation
283. **WHAT IS AGRICULTURAL WASTE COMPOSED OF?**
- A. SLURRIES
 - B. DEAD BODIES
 - C. GREEN WASTE
 - D. ALL OF THE ABOVE
284. **Examples of Biotechnology include**
- A. Glowing pigs
 - B. Vaccines
 - C. All of these
 - D. None of these
285. **how many part are in a seed**
- A. 1
 - B. 12
 - C. 3
 - D. 10
286. **The science of the earth's physical properties and its history.**
- A. Geology
 - B. Botany
 - C. Agronomy
 - D. Zoology
287. **Examples of livestock animals include ALL of the following EXCEPT:**
- A. Cattle
 - B. Pigs/Hogs
 - C. Horses
 - D. Zombies
288. **What part of a plant seed develops into the root?**
- A. plumule
 - B. micropyle
 - C. radicle
 - D. cotyledons
289. **The acquisition and use of capital in agriculture is termed ____**
- A. agricultural finance
 - B. agricultural economy
 - C. agricultural engineer
 - D. agricultural mechanization
290. **Another name for fishery is ____**
- A. Apiculture
 - B. Snailry
 - C. Aquaculture
 - D. Horticulture
291. **Livestock farming is ____**
- A. the cultivation of crops
 - B. the cultivation of fruit
 - C. the raising of animals
 - D. none of above

292. **___ is the science and business of producing domestic livestock species, including but not limited to beef cattle, dairy cattle, horses, poultry, sheep, and swine.**
- A. Pet science
 - B. Crop science
 - C. Animal science
 - D. Livestock science
293. **Which of the following is known as golden fibre?**
- A. Cotton
 - B. Jute
 - C. Hemp
 - D. Silk
294. **A country is said to have food security when it can**
- A. Feed most of its population
 - B. Provide a protein rich diet for everyone
 - C. Secure food for everyone during a natural disaster
 - D. provide safe and nutritionally balance food for everyone at every time
295. **the government abolished ___ system**
- A. dual
 - B. zamindar
 - C. pesticides
 - D. none of above
296. **___ is a method of in which grooves are dug in the field**
- A. flood irrigation
 - B. drip irrigation
 - C. sprinkler
 - D. furrow irrigation
297. **This is a group of crop**
- A. Cereal
 - B. Rice
 - C. Beans
 - D. none of above
298. **Farm Record keeping is important because**
- A. Allow for large farm profit
 - B. Minimize workload on the farm
 - C. Provide information to analyze farm business
 - D. Reduce the number of farm transaction
299. **Fins are used for**
- A. Breathing
 - B. Locomotion
 - C. Feeding
 - D. Vision

1.32 Careers in Agriculture

1. **a professional who practices veterinary medicine by treating diseases, disorders, and injuries in animals.**
 - A. veterinarian
 - B. Animal geneticist
 - C. Genetic Researcher
 - D. Slaughter processors
2. **In the Animal Systems Pathway, all professionals in this pathway follow ethical codes to ensure all animals are ___ with proper techniques and care.**
 - A. over fed
 - B. mishandled
 - C. financed

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- D. handled and treated
3. **What area of agriculture would a plant retailer be in?**
- A. Sales and services
 - B. Marketing and management
 - C. Horticulture
 - D. none of above
4. **Agriculture has contributed to the ____ of civilization for approximately 10, 000 to 12, 000 years.**
- A. herbicides
 - B. pesticides
 - C. growth and development
 - D. food-producing animals
5. **Match each career with the academic requirement for the job. industrial production manager**
- A. Ph.D.
 - B. apprenticeship
 - C. bachelor's degree
 - D. none of above
6. **peas**
- A. groch
 - B. fasola
 - C. saata
 - D. jagoda
7. **What area of agriculture is "traditional farming"?**
- A. Production
 - B. Crop
 - C. Agronomy
 - D. none of above
8. **Raising and caring of animals; making animal processing more efficient is the description of which pathway?**
- A. Environmental Service Systems
 - B. Food Products and Processing Systems
 - C. Natural Resources Systems
 - D. Animal Systems
9. **Professional trained to know and research the biology and chemistry of foods and the processes used to improve and preserve them.**
- A. Plant scientists
 - B. Wheat Breeder
 - C. Food Scientist
 - D. Entomologist
10. **Match the careers with the job tasks. agricultural technician**
- A. troubleshoots and repairs faulty machinery and equipment
 - B. analyzes water for environmental issues, such as drought, pollution, or erosion
 - C. gathers crop or animal samples for scientific testing
 - D. operates and tends cutting machines for various textiles
11. **agriculture**
- A. zbiory
 - B. uprawa
 - C. rolnictwo
 - D. none of above
12. **heat stress**
- A. when an animal is in a high temperature for a long time
 - B. when an animal is in a low temperature for a long time
 - C. is essential for odour control
 - D. helps air to circulate

13. **How is the Architecture career pathway different from the Construction pathway?**
- A. Architecture involves using tools and equipment to build something new.
 - B. Architecture involves evaluating the work of contractors and employees.
 - C. Architecture involves the design process, considering the function and safety of the project.
 - D. Architecture involves coordinating with contractors to make sure everyone stays on schedule.
14. **What area of agriculture would a seed store owner be in?**
- A. Sales and Services
 - B. Production
 - C. Marketing and Management
 - D. none of above
15. **___ is the amount of money paid per year for a job.**
- A. Career
 - B. Salary
 - C. Work environment
 - D. Job outlook
16. **Which of the following groups of occupations best reflects those created by the agricultural sector?**
- A. Dairy man, shoemaker, painter, farm manager
 - B. Farm manager, painter, salesman, dairyman
 - C. Dermatologist, tractor operator, farm manager
 - D. Tractor operator, dairyman, entomologist, farm manager
17. **A cheese plant manager belongs to which pathway**
- A. Production Agriculture
 - B. Food Processing
 - C. Recreation & Natural Resources
 - D. Forestry
18. **Study and grow plants for food, feed and clothing including genetic engineering are part of which pathway?**
- A. Animal Systems
 - B. Environmental Service Systems
 - C. Natural Resources Systems
 - D. Plant Systems
19. **Raise Cattle to get milk**
- A. Beef Farmer
 - B. Slaughter Processors
 - C. Dairy Farmer
 - D. Entomologist
20. **Marketing, financing and developing plant, animal and natural resources products are skills used in which pathway?**
- A. Agribusiness Systems
 - B. Environmental Service Systems
 - C. Plant Systems
 - D. Natural Resources Systems
21. **A welder belong to which Pathway**
- A. Production Agriculture
 - B. Agriculture Processing
 - C. Agriculture Mechanics
 - D. Horticulture
22. **Which of these is a career in Animal Science?**
- A. Hydrologist
 - B. Merchandiser
 - C. Feedlot Manager
 - D. Horticulturist

23. **Designing agricultural structures as well as machinery and equipment are tasks within which pathway?**
- A. Power, Structural and Technical Systems
 - B. Food Products and Processing Systems
 - C. Agribusiness Systems
 - D. Environmental Service Systems
24. **One popular and expanding field in this cluster is**
- A. disease resistance
 - B. outdoor activities
 - C. conservation sciences
 - D. biotechnology
25. **Match the careers with the job tasks.**
- hydroelectric technician**
- A. troubleshoots and repairs faulty machinery and equipment
 - B. analyzes water for environmental issues, such as drought, pollution, or erosion
 - C. gathers crop or animal samples for scientific testing
 - D. operates and tends cutting machines for various textiles
26. **Which of the following would NOT be the responsibility of a Veterinarian?**
- A. Research projects in agriculture
 - B. Know about laws regarding animal health
 - C. Know about vaccination recommended for all classes of animals
 - D. Know about quarantine regulations
27. **What area of agriculture is a GPS mapper in?**
- A. Sales and Services
 - B. Forestry
 - C. Marketing and Management
 - D. none of above
28. **moisture**
- A. a tall storage facility
 - B. flattening the top of a pile
 - C. a long trench used to store grain
 - D. wetness
29. **A veterinarian belongs to which Pathway**
- A. Recreation & Natural Resources
 - B. Agriculture Processing
 - C. Agriculture Sales & Service
 - D. Production Agriculture
30. **vitamin**
- A. food given to animals
 - B. any organic or inorganic substance that provides nourishment
 - C. an organic substance in food, such as thiamine, that the body uses to stay healthy
 - D. an inorganic substance that can be found in food, such as potassium, that the body uses to stay healthy.
31. **What area of agriculture includes making the product available to the consumer?**
- A. Marketing
 - B. Sales
 - C. Processing
 - D. none of above
32. **One who studies nutrient values of feeds, including how digestible they are.**
- A. Veterinarian
 - B. Plant Scientist
 - C. Animal Nutritionist
 - D. Geneticist

33. **The art, science, technology and business of tree care is known as?**
- A. Arboriculture
 - B. Treeology
 - C. Equestrian Sciences
 - D. Entomology
34. **Match the tasks with the professionals who would complete them.uses handheld machineryto cut down treescategorizes trees basedon their knot size, straightness, and othercharacteristics**
- A. Logging Equipment Manager
 - B. Energy Auditor
 - C. Civil Engineer
 - D. none of above
35. **There are ____ career clusters and ____ pathways.**
- A. 16 and 7
 - B. 12 and 51
 - C. 12 and 68
 - D. 16 and 79
36. **What area of agriculture would a pecan farmer be in?**
- A. Production
 - B. Horticulture
 - C. Forestry
 - D. none of above
37. **The science of planting and caring for forests and the management of growing timber**
- A. Horticulture
 - B. Agriculture Processing
 - C. Forestry
 - D. Production Agriculture
38. **Involves working with renewable resources**
- A. Recreation & Natural Resources
 - B. Marketing, Public Relations, & Business Management
 - C. Forestry
 - D. Agriculture Sales & Service
39. **tower silo**
- A. flattening the top of a pile
 - B. a long trench used to store grain
 - C. wetness
 - D. a tall storage facility
40. **horseradish**
- A. rzodkiewka
 - B. chrzan
 - C. burak
 - D. seler
41. **A sales person belongs to which Pathway**
- A. Production Agriculture
 - B. Agriculture Sales & Service
 - C. Marketing, Public Relations, & Business Management
 - D. Recreation & Natural ResourcesInvolves working with renewable resources
42. **Which one is NOT a pathway in the AFNR career cluster?**
- A. Animal Systems
 - B. Environmental Service Systems
 - C. Food Products & Processing Systems
 - D. Design/Pre Construction
43. **How many dollars worth of crops do US farmers produce each year?**
- A. \$250 Million
 - B. \$100 Trillion
 - C. \$250 Billion
 - D. \$100 Billion

44. **Match the careers with the job tasks.****home appliance repairman**
- A. troubleshoots and repairs faulty machinery and equipment
 - B. analyzes water for environmental issues, such as drought, pollution, or erosion
 - C. gathers crop or animal samples for scientific testing
 - D. operates and tends cutting machines for various textiles
45. **Which is NOT a place where animals live?**
- A. barn
 - B. coop
 - C. slotted floor
 - D. pen
46. **Which of these jobs would not be considered a part of the agriculture industry?**
- A. Welder
 - B. Marketing Specialist
 - C. Engineer
 - D. All of the above can be a part of the agriculture industry.
47. **Which job does a Horticulturist not do?**
- A. Breeds Plants
 - B. Teacher
 - C. Landscape Design
 - D. Raise Chickens
48. **In the Food Products and Processing pathway, these professionals play an important role in producing and ____ global food supply.**
- A. decreasing
 - B. minimizing
 - C. expanding
 - D. financing
49. **Studies insects and help farmer to use the most effective methods to keep insects away**
- A. Veterinarian
 - B. Entomologist
 - C. Hydrologist
 - D. Plant Scientist
50. **Finding new food sources, processing and packaging bulk food, complying with food laws are all part of which pathway?**
- A. Plant Systems
 - B. Food Products and Processing Systems
 - C. Power, Structural and Technical Systems
 - D. Animal Systems
51. **grain**
- A. ziarna
 - B. plony
 - C. zbiory
 - D. gleba
52. **A person who provides a direct link between the farmer and the agricultural research centre is**
- A. An Agronomist
 - B. An Entomologist
 - C. An Extension officer
 - D. A Pathologist
53. **Match each career with the academic requirement for the job.****hydrologist**
- A. Ph.D.
 - B. apprenticeship
 - C. bachelor's degree
 - D. none of above

54. **nutrient**
- A. any substance in food that helps plants or animals live and grow
 - B. an organic substance found in food that is essential for good health
 - C. food given to animals
 - D. a person who makes healthy food for animals
55. **A Hydrologist belongs to which Pathway**
- A. Marketing, Public Relations, & Business Management
 - B. Recreation & Natural Resources
 - C. Agriculture Sales & Service
 - D. Production Agriculture
56. **Who is responsible for making sure a wide variety of food is available at the grocery store?**
- A. Inventory Manager
 - B. Food Safety Specialist
 - C. Bio-fuel Chemist
 - D. Industrial Designer
57. **A Dairy Farmer belongs to which pathway**
- A. Agriculture Processing
 - B. Agriculture Sales & Service
 - C. Production Agriculture
 - D. Horticulture
58. **_____ is conditions that a worker is in, such as indoor/outdoor, working with others, etc.**
- A. Career
 - B. Salary
 - C. Work environment
 - D. Job outlook
59. **Study plants and their parts in an effort to help understand them better so production may be improved**
- A. Entomologist
 - B. Farmers
 - C. Plant scientists
 - D. Dairy Farmer
60. **Which area focuses on the economics, HR, accounting and other related aspects of agriculture?**
- A. Agriculture Business
 - B. Feedlot Manager
 - C. Environmental Sciences
 - D. Ag Mechanics
61. **Someone who specializes in manipulating the genes in living things to develop new or better organisms**
- A. Genetic Engineer
 - B. Hydrologist
 - C. Entomologist
 - D. Farmer
62. **In the Natural Resource pathway, the _____ is the primary employer of the natural resource professionals.**
- A. USDA
 - B. FDA
 - C. FBI
 - D. TEAMS
63. **Water and air pollution control, recycling, waste management are all managed in which pathway?**
- A. Plant Systems
 - B. Environmental Service Systems
 - C. Power, Structural and Technical Systems
 - D. Agribusiness Systems
64. **Use and development of equipment for agriculture purposes**
- A. Production Agriculture

- B. Agriculture Mechanics
C. Agriculture Sales & Service
D. Agriculture Processing
65. **In the Agribusiness pathway, managing records, such as financial statements, taxes, ___ and employee information are also expected of professionals in this pathway.**
A. production documents
B. phone numbers
C. emails
D. human health
66. **Farming and Ranching (raw products).**
A. Production Agriculture
B. Agriculture Mechanics
C. Agriculture Sales & Service
D. Agriculture Processing
67. **The agriculture industry in The United States employs approximately how many people?**
A. 12 million
B. 100 million
C. 850, 000
D. 23 million
68. **What area of agriculture would a greenhouse contractor be in?**
A. Production
B. Horticulture
C. Agriculture Mechanics
D. none of above
69. **Match the careers with the job tasks.**
textile tender
A. troubleshoots and repairs faulty machinery and equipment
B. analyzes water for environmental issues, such as drought, pollution, or erosion
C. gathers crop or animal samples for scientific testing
D. operates and tends cutting machines for various textiles
70. **___ is a series of related jobs over a period of time.**
A. Career
B. Salary
C. Work environment
D. Job outlook
71. **What area of agriculture is a slaughterhouse worker in?**
A. Production
B. Livestock
C. Processing
D. none of above
72. **What fraction of the US civilian labor force works in agriculture?**
A. 1/8
B. 1/2
C. 1/6
D. 1/4
73. **A farmer belongs to which Pathway**
A. Marketing, Public Relations, & Business Management
B. Production
C. Agriculture Processing
D. Agriculture Mechanics
74. **Which of these areas of study would be most helpful for a career as a Food Safety Specialist?**
A. Urban Forestry
B. Chemistry
C. Physics
D. English

75. **Promoting agricultural products and providing necessary support for Agricultural Industry**
- Forestry
 - Horticulture
 - Agriculture Sales & Service
 - Recreation & Natural Resources
76. **Involves converting Agricultural commodities to Agricultural products**
- Horticulture
 - Forestry
 - Recreation & Natural Resources
 - Agriculture Processing
77. **The growing of fruits, vegetables, and flowers, managing turfs and landscape**
- Agriculture Mechanics
 - Agriculture Processing
 - Horticulture
 - Forestry
78. **Match the tasks with the professionals who would complete them.**
- | | |
|--|---|
| inspects buildings to locate any areas that allow air to get out | reduces the amount of energy homeowners and companies use |
|--|---|
- Logging Equipment Manager
 - Energy Auditor
 - Civil Engineer
 - none of above
79. **A person whose job is to design, modify and maintain agricultural buildings and equipment has a career as**
- An engineer
 - An educator
 - A manager
 - A journalist
80. **Agriculture careers account for approximately ____ percent of Illinois careers?**
- 3%
 - 7%
 - 13%
 - 20%
81. **____ is how many people currently have this job in US & whether it is growing or declining.**
- Career
 - Salary
 - Work environment
 - Job outlook
82. **What area of agriculture would a veterinarian be in?**
- Animal and Livestock
 - Production
 - Sales and Services
 - none of above
83. **Match each career with the academic requirement for the job.**
- | |
|--------|
| roofer |
|--------|
- Ph.D.
 - apprenticeship
 - bachelor's degree
 - none of above
84. **In the Plant System pathway, professionals in these careers primarily focus on ____ crops.**
- herbicide and pesticide
 - outdoor activities
 - computer software
 - food and fiber
85. **Match the tasks with the professionals who would complete them.**
- | | |
|---|---|
| designs and oversees a large construction process | designs transportation and hydraulic systems for cities |
|---|---|

- A. Logging Equipment Manager
B. Energy Auditor
C. Civil Engineer
D. none of above
86. **What area of agriculture is someone who cuts grass in?**
A. Production
B. Horticulture
C. Agriculture Mechanics
D. none of above
87. **Ensure that machines and other equipment on farms are working as they should**
A. Hydrologist
B. Food Scientist
C. Slaughter Processors
D. Agricultural Engineer
88. **bunker silo**
A. wetness
B. a long trench used to store grain
C. a tall storage facility
D. flattening the top of a pile
89. **What area of agriculture would a wheat farmer be in?**
A. Horticulture
B. Rural Recreation and Natural Resources
C. Production
D. none of above
90. **Informing the public about Ag. products through advertisement and establishing market to sell products**
A. Agriculture Sales & Service
B. Forestry
C. Recreation & Natural Resource
D. Marketing, Public Relations, & Business Management
91. **Managing recreation areas, wildlife, conservation, mining, logging, or oil drilling are all tasks of which pathway?**
A. Animal Systems
B. Power, Structural and Technical Systems
C. Natural Resources Systems
D. Food Products and Processing Systems
92. **Studies water and water Cycle**
A. Dairy Farmer
B. Agricultural Engineer
C. Hydrologist
D. Entomologist
93. **What area of agriculture is a game warden in?**
A. Rural Recreation and Natural Resources
B. Forestry
C. Sales and Services
D. none of above
94. **In the Environmental Service Pathway, being able to utilize ___ systems are a must for this career pathway due to the amount of research and locations one may conduct research.**
A. GPS, GIS and data analysis
B. rain
C. food producing animals
D. human health
95. **Where does agriculture rank in terms of the largest industries in the US?**
A. 1st
B. 2nd
C. 3rd
D. 4th

96. **An Apiculturist is a person who works with:**
- A. Aphids
 - B. Bees
 - C. Fishes
 - D. Earthworms
97. **Which of these is awarded after completing 2 years at a technical school or junior college?**
- A. High School Diploma
 - B. Associate's Degree
 - C. Bachelor's Degree
 - D. Certification
98. **A florist belong to which Pathway**
- A. Forestry
 - B. Horticulture
 - C. Agriculture Sales & Service
 - D. Recreation & Natural Resources

1.33 Agricultural reform

1. **NABARD was established in**
- A. 1980
 - B. 1981
 - C. 1982
 - D. 1983
2. **Disguised unemployment is a phenomenon inherent in which sector of the Indian Economy?**
- A. Services
 - B. Manufacturing
 - C. Industries
 - D. Agriculture
3. **Farming in India is subsistence-oriented for which category of farmers?**
- A. Large farmers
 - B. Small farmers
 - C. Medium farmers
 - D. All of these

1.34 Agriculture Hearths

1. **central America**
- A. Mango
 - B. Coconut
 - C. cotton
 - D. coffee
2. **Hearth Location:rice, soybean, and walnut**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
3. **Coffee**
- A. East Asia
 - B. Central Africa
 - C. Middle East
 - D. Central America
4. **Farming and Domestication of Animals resulted in the beginning of ____**
- A. Paleolithic Age
 - B. Metal Age
 - C. Neolithic Age
 - D. Fire Age
5. **Hearth Location:yams, sorghum, cowpeas**

- A. Southwest Asia (Fertile Crescent)
B. Southeast Asia
C. East Asia
D. Sub-Saharan Africa
6. **sorghum**
A. Central Asia
B. East Asia
C. Central Africa
D. Central America
7. **soybeans**
A. Central Africa
B. Southeast Asia
C. East Asia
D. Middle East
8. **Low NIR**
A. Monaco
B. Angola
C. Slovenia
D. Malawi
9. **The ____ began in five centers, or hearths: Southwest Asia, East Asia, South Asia, Africa, and the Americas.**
A. First (Neolithic) Agricultural Revolution
B. Second Agricultural Revolution
C. Third Agricultural Revolution
D. Second Industrial Revolution
10. **olives**
A. Middle east
B. Central America
C. East Asia
D. Central Africa
11. **East Asia**
A. olives
B. Mango
C. Oats
D. rice
12. **Time Period: 9,500 years ago**
A. Southwest Asia (Fertile Crescent)
B. Southeast Asia
C. East Asia
D. Sub-Saharan Africa
13. **Hearth Location: Mango, Taro, and Coconut**
A. Southwest Asia (Fertile Crescent)
B. Southeast Asia
C. East Asia
D. Sub-Saharan Africa
14. **One of the first to argue that agricultural hearths were independently established at various times and locations.**
A. Carl Sauer
B. Thomas Malthus
C. Von Thunen
D. Charles Darwin
15. **southern Asia**
A. coconut
B. Yams
C. Oats
D. Olives
16. **cotton**
A. Central America
B. Middle east
C. Southeast Asia
D. Central Africa

17. **Time Period:7, 000 years ago**
- A. Mesoamerica
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
18. **Hearth Location:Oats and Rye**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
19. **Hearth Location:coffee and African rice**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
20. **Which of the following crop originated in Mesoamerica (central Mexico through Belize, Guatemala, El Salvador, Honduras, Nicaragua, and northern Costa Rica)?**
- A. Squash
 - B. Mango
 - C. Rice
 - D. Yams
21. **Rice**
- A. Southeast Asia
 - B. Middle East
 - C. East Asia
 - D. Central America
22. **Oats**
- A. Middle east
 - B. southeast Asia
 - C. Central america
 - D. soybeans
23. **potato**
- A. Middle East
 - B. Central America
 - C. Southeast Asia
 - D. East Asia
24. **First:Central Asia - dogsThen:Southwest Asia - goats and sheep**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
25. **Hearth Location:Olives**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
26. **central america**
- A. Coffee
 - B. Olives
 - C. Potato
 - D. Mango
27. **Raising and caring for animals by humans for protection or food.**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
28. **mango**
- A. Middle east
 - B. Southeast Asia
 - C. Central America
 - D. Central Africa

29. **Maize**
- A. central America
 - B. East Asia
 - C. middle east
 - D. Central africa
30. **Central Africa**
- A. Mango
 - B. Coconut
 - C. Coffee
 - D. Soybeans
31. **People who migrate from place to place are called ____**
- A. farmers
 - B. paleolithic
 - C. laborers
 - D. nomads
32. **maize**
- A. middle east
 - B. southeast Asia
 - C. central America
 - D. Central Africa
33. **Growing of crops that people planted, raised, and harvested.**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
34. **Time Period:10, 000 years ago**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
35. **Hearth Location:barley, wheat, and lentils**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa
36. **yams**
- A. Central America
 - B. Central Africa
 - C. Middle East
 - D. Southeast Asia
37. **Carl Sauer believed that people first used vegetative planting, growing crops using parts of the stems or roots of existing plants.**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
38. **Southeast Asia**
- A. Coconut
 - B. Mango
 - C. Rice
 - D. Oats
39. **Probably began when Central Asian hunters domesticated dogs.**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
40. **coconut**
- A. Southeast asia
 - B. central Africa
 - C. Central america
 - D. Middle East

41. **Probably began after animal domestication.**
- A. Animal domestication
 - B. Animal taming
 - C. Plant cultivation
 - D. Plant domestication
42. **Time Period: 10, 000 to 12, 000 years ago**
- A. Southwest Asia (Fertile Crescent)
 - B. Southeast Asia
 - C. East Asia
 - D. Sub-Saharan Africa